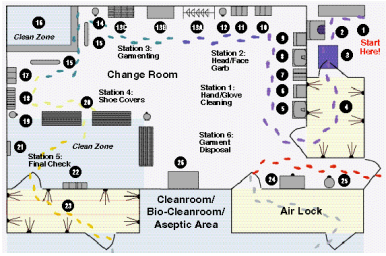
ER Wash & Drench

Chem Spill Kit

Fume Hood

BiosafetyCabinet



Gowning Room

First Aid Kit

Desiccator; drybox

Acid/Base Cabinet; Poly

Gas Sensor/alarm

Waste Containers

BioSafety; Guidelines, Fume Hoods, Cabinets, Wash & Shower, Storage, Spill, Gas Detection, First-Aid Kits

(Detect Instrument Picture to Jump to that section of SOP)

Fire Ext

Flammables Cabinet

BondingClips

Heat Gloves

Ethidum Bromide Disposal Unit

Prepared by: Bob Morrison
FVCC, Instrumentation Specialist
Oct 08 created, last revision July 2013 (Hoods)

Tank Storage

Biosafety: BioHazard Waste Pickup

(per Becky Staerk July 2013)

Medi-Sure
877-963-3277 (x325)
Customer number #1239
Ask for Glenda and remind her we are at the BRDG Park location. 1005 N. Warson

BioHaz Service
Jennifer Houston
660-882-2939
jhouston@medserve.com
www.medserve.com

Bstaerk Note: It may take multiple calls to get a confirmed pickup date/time and that may need to be rescheduled.

Biosafety: BioHazard Waste Pickup

(per Becky Staerk Nov 2012)

Marcy Cline set this up for us, but our Biohazard is through Med Assure, Nov 2012

Med Assure
913-364-3000 or 913-364-3004
ext. 305
Ask for Annette.

Biosafety: Special Use Permit Status, Marcy Cline Aug 2012

From: Cline, Marcy J.
Sent: Wednesday, August 08, 2012 2:35 PM
To: Boedeker, Elizabeth D.
Subject: Re: Special Use Permit

We do not have, nor are required to have any permits for the Brdpk Stlcc facility. All hazardous waste is disposed by Heritage Environmental. All bio hazardous waste is disposed by Waste Management. Neither require a permit.

Sent from my iPhone

Biosafety: St. Louis Community College Laboratory Safety Guidelines Florissant Valley Campus

Implementing the Laboratory Safety Guidelines

Biology Chair: Guidelines for Safety…

Biology Chair: Student Form for Signature…

1.0 Personal Protective Equipment in the Lab

2.0 Laboratory Hazard Communication-MSDS and Container Labeling

3.0 Chemical Storage

3.1 Chemical Hygiene Plan

3.2 Purchasing and Use of Chemicals

4.0 Lab Waste Disposal

4.1 Metropolitain Sewer District Ordinance..pdf

4.2. Hazardous Waste List

4.3 Hazardous Label

4.4 Ethidium Bromide Disposal

5.0 Control of Bloodborne Pathogens in the Lab

6.0 Response to Emergencies in the Lab

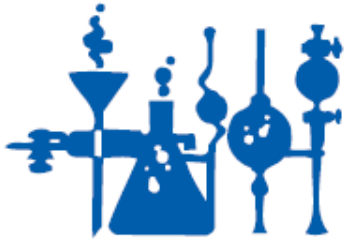
7.0 Lab Inspections

7.1 Lab Inspection Form

8.0 Safety Training for Students and Staff Working in the Lab

Copyright c 2001 St. Louis Community College. All rights reserved.
Risk Management Department, Cosand Center, Ext 5120.

Chemical Spill

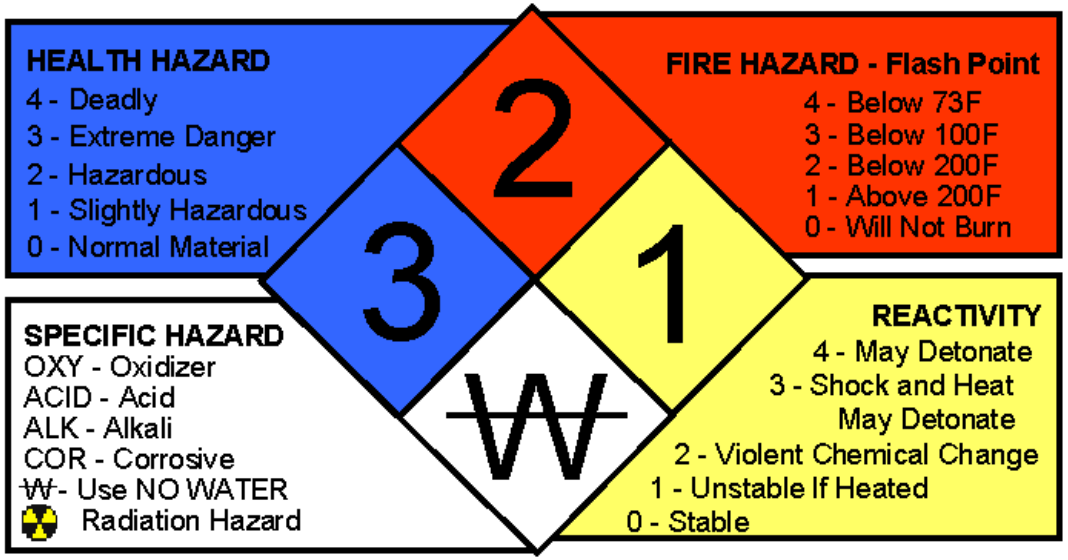


If you discover a chemical spill:

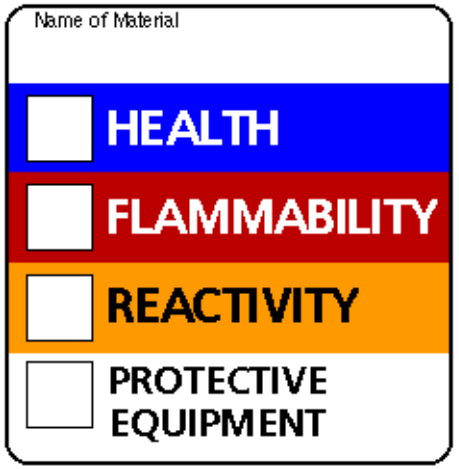
1. Immediately inform all in the area to leave the area.
2. If the chemical comes in contact with any person:
   - Remove all contaminated clothing.
   - If there is contact with a person's eyes, rinse eyes with water for at least 15 minutes.
   - If there is contact with a person's skin, thoroughly rinse under water and then wash with soap and water.
3. Call Campus Police (4300).
4. Inform Campus Police of the type and amount of chemical spilled.
5. Do not clean up any chemical spill on your own without permission of Campus Police.

Hot link to STLCC-FV Emergency Response Guide (3/09)…. pdf

BioSafety: Safety Symbols (NFPA) and HMIS



National Fire Protection Association



Hazardous Material Identification System

Biosafety: Fire Extinguisher, Lab, Class ABC, Dry Chemical

Dry chemical extinguishers are useful for either class ABC or class BC fires (check the label) and are your best all around choice for common fire situations. They have an advantage over CO2 and "clean agent" extinguishers in that they leave a blanket of non-flammable material on the extinguished material which reduces the likelihood of reignition. They also make a terrible mess - but if the choice is a fire or a mess, take the mess! Note that there are two kinds of dry chemical extinguishers:

Type BC fire extinguishers contain sodium or potassium bicarbonate.
Type ABC fire extinguishers contain ammonium phosphate.

Class A fires are ordinary materials like burning paper, lumber, cardboard, plastics etc.

Class B fires involve flammable or combustible liquids such as gasoline, kerosene, and common organic solvents used in the laboratory.

Class C fires involve energized electrical equipment, such as appliances, switches, panel boxes, power tools, hot plates and stirrers. Water can be a dangerous extinguishing medium for class C fires because of the risk of electrical shock unless a specialized water mist extinguisher is used.

Class D fires involve combustible metals, such as magnesium, titanium, potassium and sodium as well as pyrophoric organometallic reagents such as alkyllithiums, Grignards and diethylzinc. These materials burn at high temperatures and will react violently with water, air, and/or other chemicals. Handle with care!!

Class K fires are kitchen fires. This class was added to the NFPA portable extinguishers Standard 10 in 1998. Kitchen extinguishers installed before June 30, 1998 are "grandfathered" into the standard.

Link to OSHA Fire Extinguisher Reqmts.

Biosafety: Fire Safety Rules at BRDG

- **General Rules if a fire is spotted:**
  - Pull alarm (at North entrance doors to CPLS) and/or notify others to evacuate the building to the North parking lot area
  - Call 911 or ensure another is doing that
  - Push the **"RED"** emergency gas off button at the lab door exits
  - Use fire extinguisher if it seems reasonable and only if there is a clear exit behind you
- **Fire extinguishers**
  - Located in each lab room near yellow box First Aid kits
  - Located in the main corridors at Break Room and Conf. Room
  - PASS operating instructions:
    - "P" Pull the ring pin out with a strong force
    - "A" Aim the hose at the lower base of the fire
    - "S" Squeeze the lever/handle
    - "S" Sweep the hose side-to-side until flames are extinguished
  - Inspect extinguishers once per month to verify "green" state
- Notify all new employees/interns and students about fire safety

Biosafety: Fire or Safety Drill Gathering Location

Let's designate this island (labeled with an orange STAR) as the STLCC meeting location in case of emergency (such as the recent fire drill). Upon exiting the building, all faculty and staff should check in at this location. Faculty should be monitoring the exit of their students if classes are in session.

Please note that currently, "building 2" is our close parking lot, and "building 3" is also currently a parking lot. We selected a location that would not change over the next few years as the landscape might.

Biosafety: Handling Flammables; OSHA, Guidelines

Hot link to Flammable and Combustible Liquids… pdf

Bonding Wire: Container to Container

3 FT UNINSUL AN-ST WIRE DUAL
VWR CAT # 56620-208

Attach alligator clip end to source vessel and receiving container before opening source. Leave attached during pour.

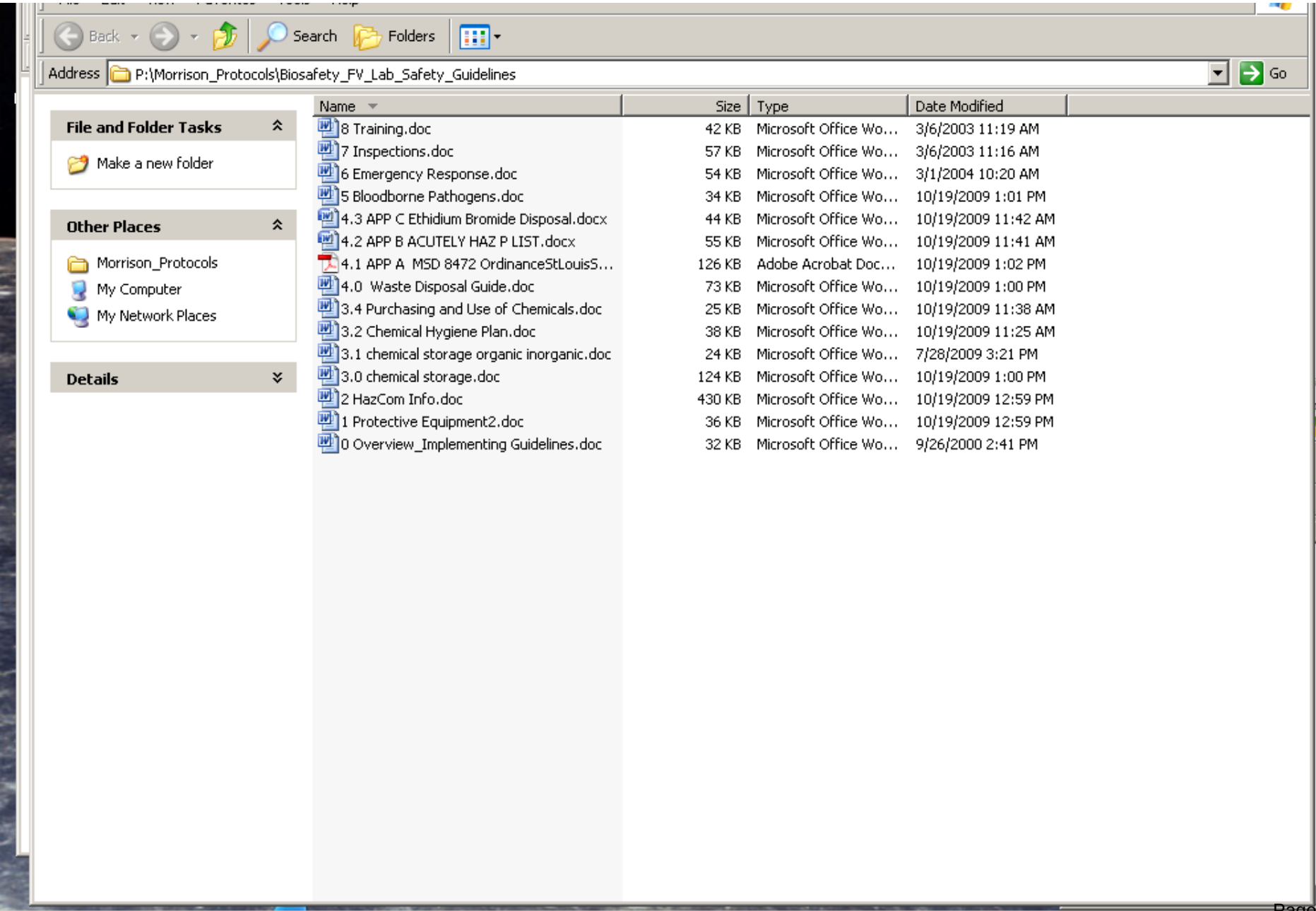
BioSafety: STLCC Risk Mgmt and Other Lab Contacts

From: Cline, Marcy J.
Sent: Wed 10/21/2009 12:57 PM
To:
Naumann, Virginia L.; FV Bio
Mazdra, Adrienne M.; FV Chem
Gero, Susan A.; MC Lab Tech
Bast, Janet D.; MC Lab Tech
Dill, Kimberly M.; MC Lab Chem
Tolentino, Susan C.; FP Lab Chem
Brandon-Straub, Rachel R.; FP BioSci Lab Tech
CC:Morrison, Robert G, FV Bio Instrumentation
Kroder, George T. ; Risk Mgmt, Cosand

Subject: FW: Biosafety; FV Lab Safety Guidelines/Manual

Bob Morrison was kind enough to post the existing Laboratory Guidelines on the STLCC web for us. The URL for our website is again: http://users.stlcc.edu/departments/fvbio/. See below for how it looks on the page. This may be helpful to you as you are training your new students and student workers. They haven't been updated since 2003. If you notice anything that needs to be updated, please let me know and we'll make the change. I haven't had time to thoroughly review it yet but will in the near future. Thanks Bob. That was a big help!

Biosafety: Lab Safety Guidelines, File Storage Structure on Server


Back
Search
Folders
Address
P:\Morrison_Protocols\Biosafety_FV_Lab_Safety_Guidelines
Go
File and Folder Tasks
Make a new folder
Other Places
Morrison_Protocols
My Computer
My Network Places
Details
Name
Size
Type
Date Modified
8 Training.doc 42 KB Microsoft Office Wo... 3/6/2003 11:19 AM
7 Inspections.doc 57 KB Microsoft Office Wo... 3/6/2003 11:16 AM
6 Emergency Response.doc 54 KB Microsoft Office Wo... 3/1/2004 10:20 AM
5 Bloodborne Pathogens.doc 34 KB Microsoft Office Wo... 10/19/2009 1:01 PM
4.3 APP C Ethidium Bromide Disposal.docx 44 KB Microsoft Office Wo... 10/19/2009 11:42 AM
4.2 APP B ACUTELY HAZ P LIST.docx 55 KB Microsoft Office Wo... 10/19/2009 11:41 AM
4.1 APP A MSD 8472 OrdinanceStLouisS... 126 KB Adobe Acrobat Doc... 10/19/2009 1:02 PM
4.0 Waste Disposal Guide.doc 73 KB Microsoft Office Wo... 10/19/2009 1:00 PM
3.4 Purchasing and Use of Chemicals.doc 25 KB Microsoft Office Wo... 10/19/2009 11:38 AM
3.2 Chemical Hygiene Plan.doc 38 KB Microsoft Office Wo... 10/19/2009 11:25 AM
3.1 chemical storage organic inorganic.doc 24 KB Microsoft Office Wo... 7/28/2009 3:21 PM
3.0 chemical storage.doc 124 KB Microsoft Office Wo... 10/19/2009 1:00 PM
2 HazCom Info.doc 430 KB Microsoft Office Wo... 10/19/2009 12:59 PM
1 Protective Equipment2.doc 36 KB Microsoft Office Wo... 10/19/2009 12:59 PM
0 Overview_Implementing Guidelines.doc 32 KB Microsoft Office Wo... 9/26/2000 2:41 PM
start
note_gadget.txt - N...
Bmorrison on 'Fvclus...
Morrison_Protocols
Biosafety_FV_Lab...
8:51 AM

Biosaftey: Inspection Guidelines from Macy Cline 1/27/11

From: Cline, Marcy J.
Sent: Thursday, January 27, 2011 1:17 PM

An EPA Hazardous Waste inspector dropped in on a local company yesterday at 3:00 pm. Said he was in the area and wanted to take a look at their hazardous waste storage area. This is a good opportunity for us to check ourselves. I also revised the attached Inspection Protocol list. Please review it along with the following:

We operate under the Satellite Accumulation Areas (SAA) rules, which are less rigorous than the full Hazardous Waste Rules. We need to make sure we can comply with these rules. Please check your SAA for the following:

1. All hazardous wastes are labeled with the words "Hazardous Waste", name of the material in the container, date the first drop went in the container. Label is in good condition and legible.
2. All container of hazardous waste must be closed except when adding material. The rule is, if the container were knocked over, would materials spill out? If yes, it's not a closed container. You cannot leave the funnel in the container unless it has a valve that is closed and can prevents material from spilling when turned over. This is important. I've seen funnels left open drums that would be a finding. Drums with the rings left loose would be a finding. Close them up.
3. Flammable liquids in drums should be grounded. Make sure the grounds are connected.
4. All Non-Hazardous waste must be labeled with the proper label: Used Oil, Used Oil filters, other non-haz such as Latex Paint, must have the green label etc.
5. Used fluorescent bulbs must be in containers that are closed with dated purple label.

6. Rechargeable batteries, must have terminals taped or bagged and segregated by type. Only one type per container i.e. NiCad's separate from the Lithium, etc.
7. Storages area should be designated with the SSA sign provided earlier. If you don't have one, let me know and I'll get it.
8. If asked, remember we pick up hazardous waste every 180 days at the end of spring and fall semesters, and as needed between.

This is not an exhaustive list. As you check your SAA, imagine the questions they might ask. If you have spill stains, how will you explain it? Give me a call and we'll work on it. Better me than EPA.

Marcy Cline
Environmental, Health and Safety Specialist, Risk Management
St. Louis Community College - Cosand Center
300 S. Broadway, St. Louis, MO 63102-2800
Phone: 314-539-5127 Fax: 314-539-5453
E-mail: mcline18@stlcc.edu

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Biosafety: Guidelines, Biosafety in Microbiological and Biomedical Labs (CDC, NIH, USHS)

Biosafety in Microbiological and Biomedical Laboratories*

U.S. Department of Health and Human Services
Public Health Service

Centers for Disease Control and Prevention

and

National Institutes of Health

Fifth Edition
2007

U. S. Government Printing Office
Washington: 2007

Hot link to Biosafety in Microbiological and Biomedical Labs…. pdf

* See update note on second page

Biosafety: Regulations, National (U.S.), OSHA

Regulations (Standards - 29 CFR)
National Research Council Recommendations Concerning Chemical Hygiene in Laboratories (Non-Mandatory) - 1910.1450 App A

Regulations (Standards - 29 CFR) - Table of Contents

- Part Number: 1910
- Part Title: Occupational Safety and Health Standards
- Subpart: Z
- Subpart Title: Toxic and Hazardous Substances
- Standard Number: 1910.1450 App A
- Title: National Research Council Recommendations Concerning Chemical Hygiene in Laboratories (Non-Mandatory)

Hot Link to OSHA Standards for Chemical Safety in Labs …. htm

Biosafety: Regulations, General Principles

Hot Link to OSHA Standards for Chemical Safety in Labs …. htm

A. General Principles for Work with Laboratory Chemicals

In addition to the more detailed recommendations listed below in sections B-E, "Prudent Practices" expresses certain general principles, including the following:

1. It is prudent to **minimize all chemical exposures**. Because few laboratory chemicals are without hazards, general precautions for handling all laboratory chemicals should be adopted, rather than specific guidelines for particular chemicals (2,10). Skin contact with chemicals should be avoided as a cardinal rule (198).

2. **Avoid underestimation of risk.** Even for substances of no known significant hazard, exposure should be minimized; for work with substances which present special hazards, special precautions should be taken (10, 37, 38). One should assume that any mixture will be more toxic than its most toxic component (30, 103) and that all substances of unknown toxicity are toxic (3, 34).

3. **Provide adequate ventilation**. The best way to prevent exposure to airborne substances is to prevent their escape into the working atmosphere by use of hoods and other ventilation devices (32, 198).

4. **Institute a chemical hygiene program**. A mandatory chemical hygiene program designed to minimize exposures is needed; it should be a regular, continuing effort, not merely a standby or short-term activity (6,11). Its recommendations should be followed in academic teaching laboratories as well as by full-time laboratory workers (13).

5. **Observe the PELs, TLVs.** The Permissible Exposure Limits of OSHA and the Threshold Limit Values of the American Conference of Governmental Industrial Hygienists should not be exceeded (13).

Biosafety: Shower and Eye Wash Testing Requirements

ANSI Standards:
To ensure that your eyewash stations and showers are always ready when you need them, it is important that the requirements for test procedures and maintenance set forth in Z358.1-2004 are followed. The American National Standard for eyewashes and showers provides minimum requirements for these units to function properly.

The requirements for testing and maintaining any of the eye, eye/face washes and showers is based on the manufacturer's instructions and ANSI requirements.

Generally, the manufacturer's instructions state that the units "should be inspected, tested and recorded weekly". Individual owner manuals should be looked at for the specific manufacturer's guidelines.

The ANSI standard Z358.1 5.5.2 states that "plumbed eyewashes, eye/face washes and showers "….should be activated weekly for a period long enough to verify operation and ensure that the flushing fluid is available". While activating plumbed eyewashes, eye/face washes and showers, you should also verify that they are providing luke warm tepid water (between 60°-100°F). Self-contained eye washes obviously cannot be activated weekly without using up valuable solution, so ANSI recommends visually inspecting the unit to see if the fluid needs changing or supplementing.

Plumbed and self-contained units shall also be inspected and maintained in accordance with the manufacturer's instructions. For eyewashes, this includes protecting the nozzles and flushing fluid against airborne contaminants.

Biosafety : Links to Safety Videos

Emergency Response. (12 min HHMI)……http://vimeo.com/1177975

Chemical Hazards (9min HHMI)…… http://vimeo.com/1177949

Chemical Storage Hazards (11min HHMI)…… http://vimeo.com/1178037

Glasswashing Hazards (10 min HHMI)……http://vimeo.com/1177999

Centrifugation Hazards (9min HHMI)…… http://vimeo.com/1177927

Videos below are available for checkout at FV (VHS format) and BRDG (DVD): see the Respective lab managers for the original.

LST 101: Orientation

LST 102, 103, 104: Showers, Flammables, Formaldehyde

LST 105, 106, 107, 108 : Electrical, Ergonomics, MSDS, Hoods

LST 109, 110, 111, 112: Contamination, Glassware, Emergencies, GasCylinders.

Biosafety: Good Lab and Manufacturing Practices

Link to FDA Good Laboratory Practice for Non-Clinical Labs
TITLE 21--FOOD AND DRUGS
CHAPTER I--FOOD AND DRUG ADMINISTRATION
DEPARTMENT OF HEALTH AND HUMAN SERVICES
SUBCHAPTER A--GENERAL
PART 58

BioSafety: Regulations, Toxicity, Air Quality Terms, Guidelines

- **TLV** **Threshold Limit Value** **Safe level for a daily basis**
- **TLV-TWA** **Time Weighted Average** **Average concentration for 8hrs**
- **TLV-STEL** **Short Term Exposure Limits** **15 minutes, 4 "events" per day**
- **TLV-C** **Ceiling Exposure Limit** **Must never exceed this amount**
- **PEL** **Permissible Exposure Limit** **OSHA requirement, legal limit**

Chemical	Toxicity	Flammable	LD50 oral	TLV ppm	TLV mg/m*3	PEL ppm	PEL mg/m*3
Acetic Acid	acute		3310	10	25	10	25
Acetone	chronic	Yes	5800	750	1780	1000	2400
Acetonitrile	acute	Yes	2730	40	70	40	70
Acrylamide	acute, chronic		124	9	0.03 (skin)	no data	.3 (skin)
Ammonium hydroxide	acute		350	25	17	35	27
Benzene	carcinogen	Yes	4894	10	32	1	3
Chloroform	possible carcinogen		908	10	49	50	240
Diethyl ether	acute	Yes	1215	400	no data	400	no data
Ethanol	mutagen	Yes	7060	1000	1880	1000	1900
Ethidium Bromide	**mutagen**		no data	no data	no data	no data	no data
Ethyl acetate	acute, chronic	Yes	6100	400	1440	400	1200
Formaldehyde	acute, carcinogen	Yes	500	0.3	0.37	0.75	1.5
Hexane	chronic, neurotoxin		28710	50	176	500	1800
Hydrochloric Acid	acute		no data	5	7.5	5	7
Hydrogen peroxide	irritant		75	1	1.4	1	1.4
Mercury	acute, neruotoxin		no data	no data	0.025	no data	0.1
Methanol	acute	Yes	5628	200	262	200	260
Nitric Acid	acute		no data	2	5.2	2	5
Phenol	acute, neurotoxin,		384	5	19	5	19
Pyridine	hepatoxin, chronic	Yes	no data	no data	no data	no data	no data
Sodium Hydroxide	acute		140	no data	2	no data	2
Sulfuric Acid	acute		2140	no data	1	no data	1
Toluene	chronic, irritant	Yes	2650	50	188	200	750

Notes: FV Equipment DB, source table 29.11 Seidman/Moore Biotech Manual

BioSafety: Gases, Concentration Safety Levels

Hydrogen	Lower Explosive/Flammability Limit	**4% volume of air**
	Minimum Ignition Energy (joules)	0.016 @ 28% (in pure oxygen 0.0012) (per Wikipedia)

Carbon Dioxide: (per Wikipedia) 1/13/11

Toxicity and its effects increase with the concentration of CO_2, given **in volume percent of CO2 in the air.**

- 1% can cause drowsiness with prolonged exposure
- At 2% it is mildly narcotic and causes increased blood pressure and pulse rate, and causes reduced hearing
- At about 5% it causes stimulation of the respiratory center, dizziness, confusion and difficulty in breathing accompanied by headache and shortness of breath
- At about 8% it causes headache, sweating, dim vision, tremor and loss of consciousness after exposure for between five and ten minutes

Lab Systems: Gas Detection; Sensor/Alarms; Oxygen , Airgas

Built to Industrial Scientific's highest quality and reliability standards, GasBadge® Pro provides a lifetime of gas hazard protection with more features than any other single gas monitor available. Interchangeable "smart" sensors enable the GasBadge Pro to be quickly adapted to monitor unsafe levels of oxygen or any one of the following toxic gases: carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, chlorine, chlorine dioxide, phosphine, ammonia, hydrogen and hydrogen cyanide. GasBadge Pro communicates directly via an infrared interface to optional accessories like the Docking Station™, Datalink and infrared printer to further simplify and automate calibration, function (bump) testing and data downloading. Standard STEL and TWA readings, and logging of up to one year of survey data are featured along with an event-logger that records the past 15 alarm events. Housed in a rugged enclosure, the monitor is immune to RF, water resistant and extremely durable. A protective concussion-proof overmold protects the unit from extreme abuse in a variety of harsh industrial environments. Its simple and intuitive four-button navigation allows easy access to setup, operation and calibration functions. Lifetime warranty.

Industrial Scientific GasBadge® Pro Oxygen Single Gas Monitor, I24181000603, $363.97
OR
: MSA Altair™ Pro Single Gas Detector For Oxygen, MSA10074137, $363.31

- PPM or % by volume readout
- Powerful audible alarm complemented by vibrating and visual alarms, standard
- Backlit display
- "Go/No Go" display mode
- User adjustable alarm and calibration gas setpoints
- Water resistant - IP66/67 (certified by a third party)
- Interchangeable "smart" sensors monitor oxygen or any one of many toxic gases
- Docking Station™ compatible
- One year datalogging capacity (minimum)
- Standard STEL and TWA
- Lifetime warranty
- Minimum 2,600 hours continuous operation from replaceable CR2 Lithium battery

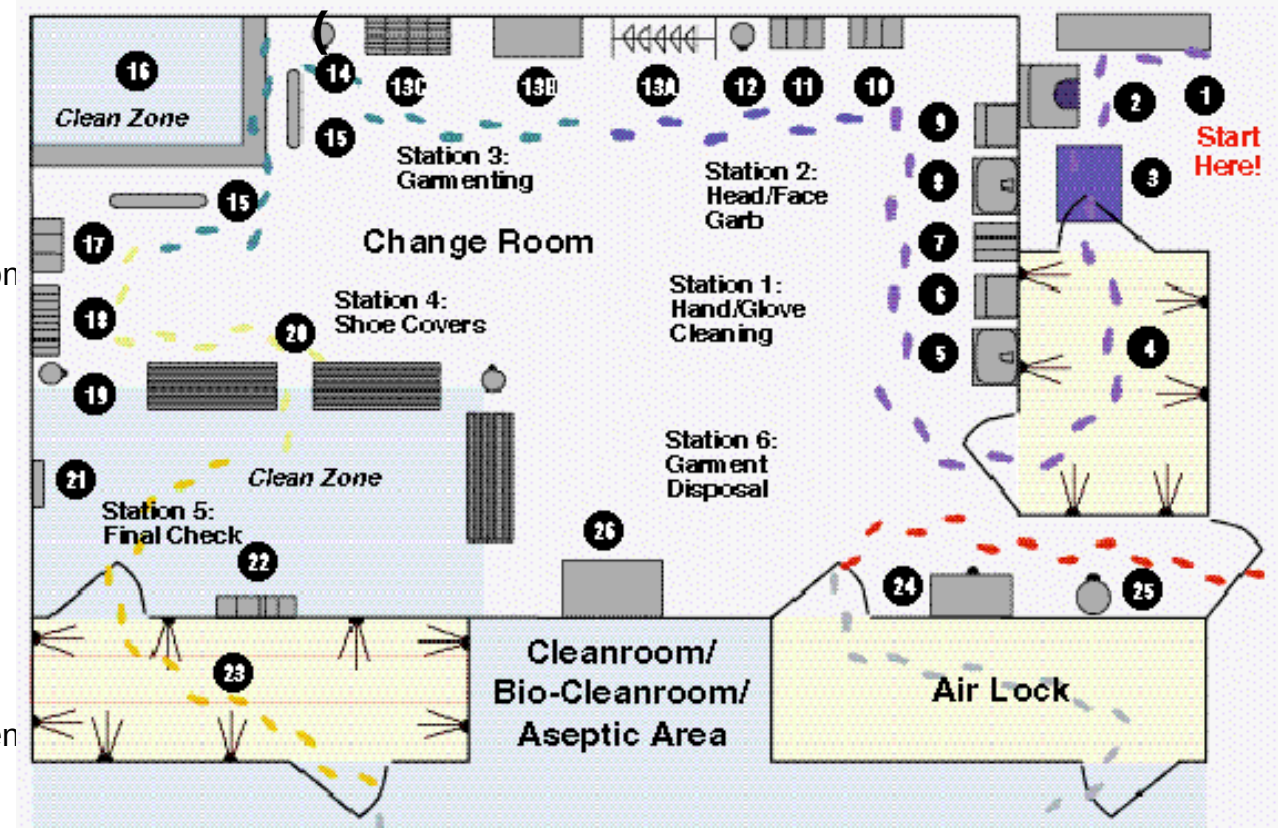
Biosafety: Regulations, Material Safety Data Sheets (MSDS)

At STLCC-FV, the official Biology and Biotechnology printed MSDS library binders are located on the hallway directly outside the office of the lab manager, Ginny Naumann.

Hot Link to online resources for MSDS information from various public, Industry, and Government sources, some sites require registration and fees after trial period …. html

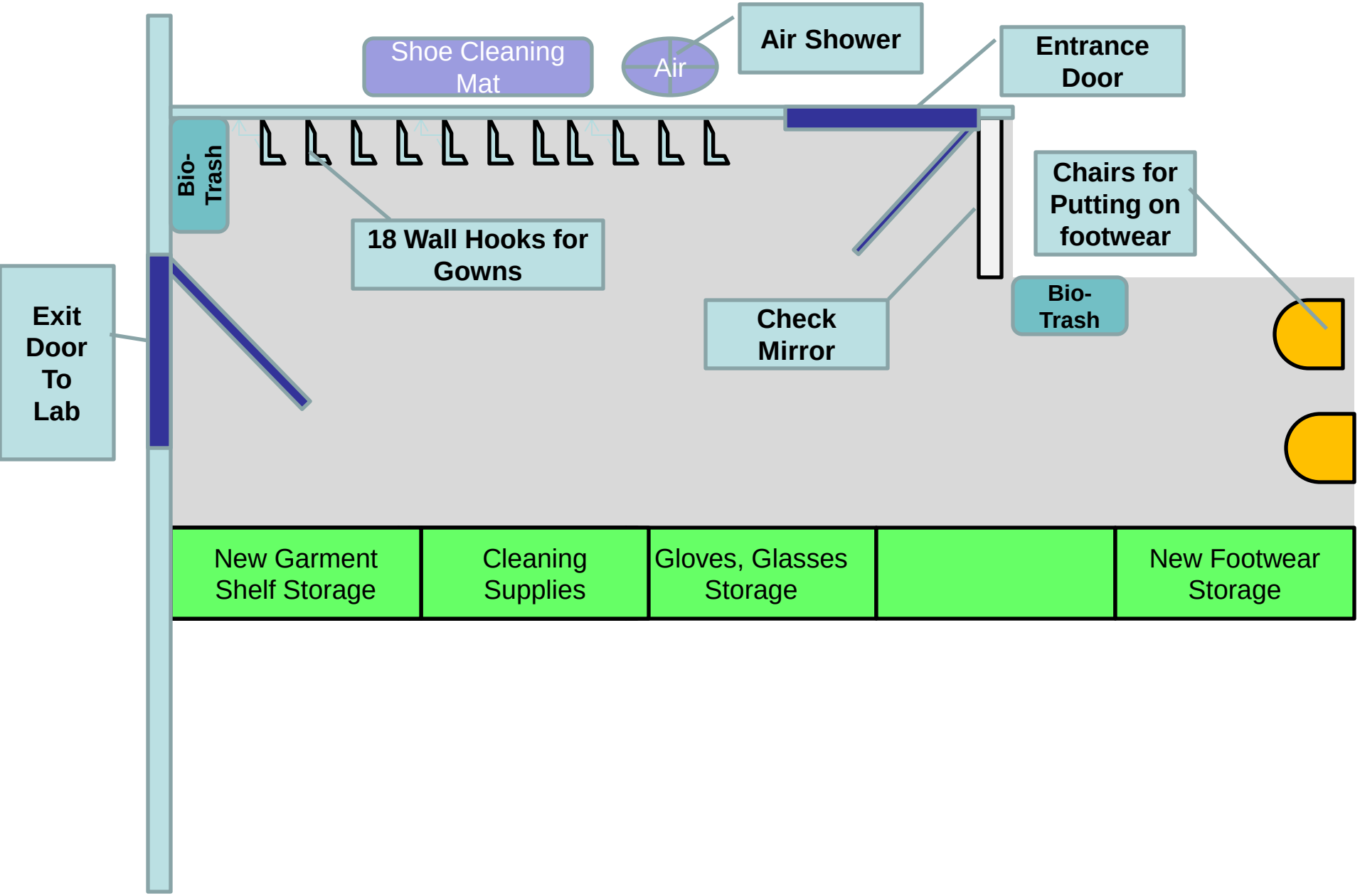
Hot Link to online resources for 350,000+MSDS at the Hazard Communication Library
Free (no registration required, no cookies) . …. html

Biosafety: Clean/Bio-Safe Gowning Room Design Features



1. Secure lockers for personal property
2. Shoe cleaner, w brushes
3. Walk-off adhesive shoe mat
4. Air Shower, HEPA loose contaminants
5. Hand washing station, no-touch operation
6. Hand dryer HEPA filtered air, no touch
7. Dispenser for glove liner or underglove
8/9. Glove washing/drying station
10. Headwear dispenser
11. Face mask dispenser
12. Waste receptacle
13. Garment Storage Facility
13a Open Rack for reusable garments
13b Enclosed Cabinet for reusable garmen
13c Shelves for disposable garments
14. Waste Receptacle
15. Ergonomic Lean Rails support personnel while donning coveralls
16. Gowning Platform provides a noncontaminated surface to prevent violation of garment
17. Wiper dispenser—used to clean bench prior to putting on booties
18. Bootie/shoe cover dispenser (may also be incorporated into benches)
19. Waste Receptacle
20. Gowning benches, used when putting on booties. Booties stay on "clean" side
21. Cleanroom mirror for final self-inspection (side-by-side w/poster showing correctly garbed model)
22. Safety glass and overglove dispensers
23. Air shower—may be required in cleanroom entrance
24. Garment hamper for reusable garments to be laundered
25. Waste receptacle for disposable garments
26. Tools, supplies cabinet for overstock garments or cleanroom supplies

BioSafety: Gowning Room 120, Proposed Layout



Biosafety: Hood, BRDG, Lanconco, Protector Series

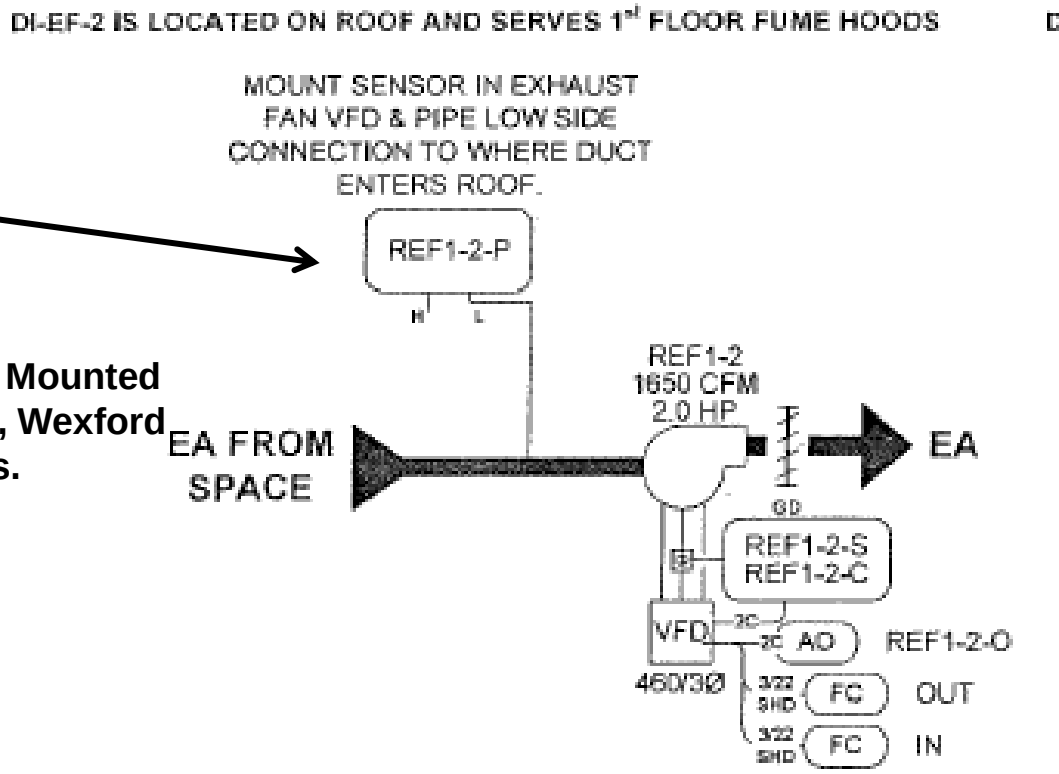
Hot Link to Labconco Hood Manual - pdf

Hoods have no internal blower
Roof-mounted fan provides exhaust for all hoods.

Note: After power failure, these may need resetting by Johnson Controls to max values.

Product Specifications
BRDG Part No: 975040416589, SN 090915043, 44, 45
- **Weight:** 337.0 lbs , **Weight metric:** 153.0 kg
- **Dimensions:** 48.0" w x 33.2" d x 59.0" h
- **Electrical:** 115 volts, 60 Hz, Domestic, **Nominal Width:** 4'
- **Alternate Air Usage/Static Pressure at 100 fpm:** With sash full open, exhausts 730 CFM at 0.17" H2O static pressure, With sash open 18" high, exhausts 470 CFM at 0.07" H2O static pressure
- **Blower Requirements:** Remote blower required
- **Conformance:** ANSI Z9.5, ASHRAE 110, ASTM E84, CAN/CSA C22.2, NFPA 45, SEFA 1, UL
- **Electrical Duplexes:** 1 **Electrical Standard:** Domestic
- **Lighting:** T8 fluorescent **Service Fixtures:** 2

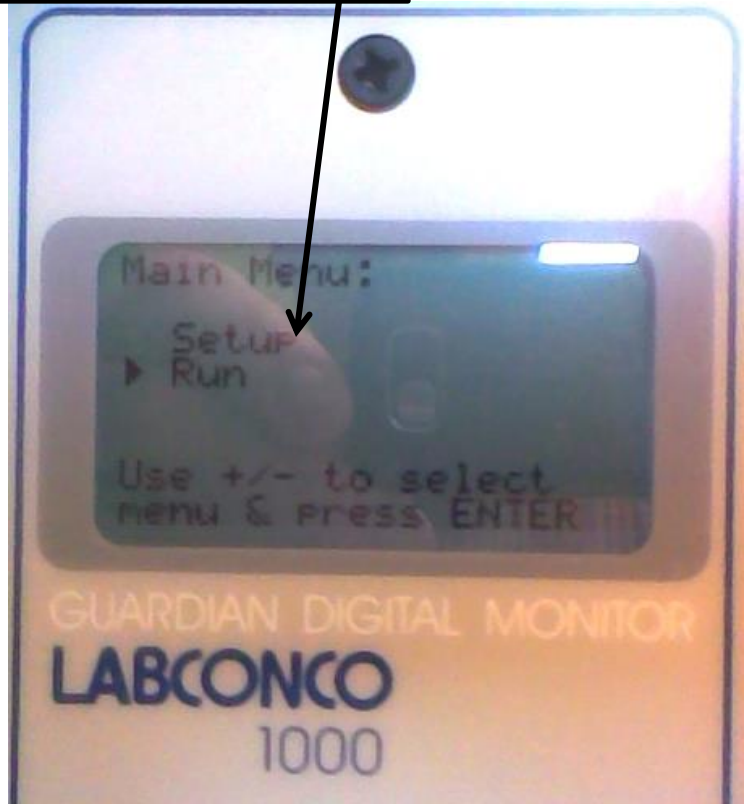
Tested 12/3/09 by Senco Services Co, 701 Emerson Rd Suite 220, 63141, Doug Smith, 314-432-5100, 120 FPM nominal, labeled 111, 113E, 113W



Roof Mounted Fans, Wexford Dwgs.

Biosafety: Hood, BRDG, Lanconco, Controls/Alarm Settings

1) **Press and hold ENTER for 10 seconds until screen moves from monitoring to Setup and Run options**
2) **Use "-" minus to move from RUN to Setup mode, then follow menus to set High and Low flow rate limits and other parameters.**
3) **After each setting, press ENTER to accept the values**
4) **When finished, return and set to RUN mode for monitoring.**



Hot Link to Guardian Digital 1000Manual - pdf

Biosafety: Local Service for Hoods; July 2013

From: CPLS Lab Manager <cplslabmgr@gmail.com>
To: Boedeker, Elizabeth D.
Cc: Morrison, Robert G.
Subject: Re: Hoods July 25th

Fume hoods all passed (well within range of acceptance.)
Next due 7/2014
Randy Wood (tech)
airsafe@airsafeonline.com
Client ID# SLC69
Test report#s
50792AA5
50793AA5
50794AA5

Laura

On Jul 8, 2013, at 8:48 AM, "Tabitha Carnow" <tabitha@airsafeonline.co

Marcy,

I received an email from John Duarte requesting his fume hood

I need to schedule all of the SLCC hoods to be done during the s
think Mr. Duarte's can still be done during the July time frame w

Thank you in advance for any input or suggestions you have.

Tabitha R. Carnow
<AS1.jpg>
129 S. Gallatin
Liberty, MO 64068
Web: airsafeonline.com
Email: tabitha@airsafeonline.com
Phone: (816) 792-8250

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On 7/1/2013 10:52 AM, Cline, Marcy J. wrote:

I received some information on the fume hoods at SCEUC campus. I have filled that in on the attached inventory. I have a request out to see when would be the best time to do the inspections without interfering with classes. I'll get back to you as soon as I hear, hopefully this week.

If you have any questions, feel free to contact me at the numbers below or by email.

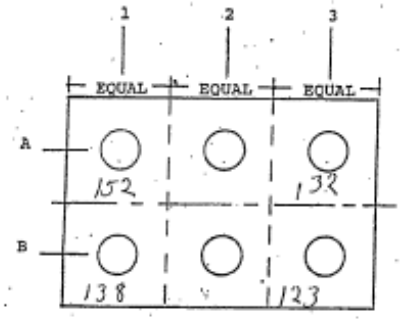
Thanks

Marcy Cline
Environmental, Health and Safety Specialist, Risk Management
St. Louis Community College - Cosand Center
300 S. Broadway, St. Louis, MO 63102-2800
Phone: 314-539-5127 • Fax: 3145395127@fax.stlcc.edu
E-mail: mcline18@stlcc.edu

Prep Room H
July

HAMILTON INDUSTRIES
TWO RIVERS, WISCONSIN

FIELD EVALUATION - LABORATORY FUME HOODS



Project Name St. Louis Com. C
Location Bridge Park
Order No. _____
Room Prep Item _____
Fume Hood Identification HI
Sash Operation: _____
Light Operation: _____
Baffle Operation: _____
Services: A ___ G ___ V ___
Other: _____

FACE VELOCITY TEST

1A	152	F. P. M.
1B	138	"
2A		"
2B		"
3A	132	"
3B	123	"

Total 545 / 4 = 136 Average

Total C. F. M. _____

Conclusion and Comments: Pas
Alarm Set

I certify that the above results were obtained on 7/13/12 Date by MS In

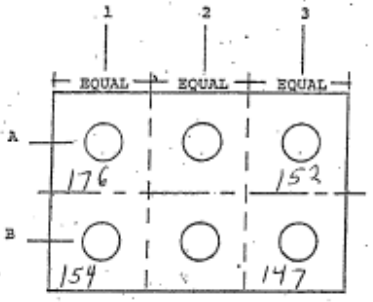
Evaluation procedures conducted by Michael Jacquin Name

Director of Field Operations Title

R127 Left-most (West) Hood
July 2012

HAMILTON INDUSTRIES
TWO RIVERS, WISCONSIN

FIELD EVALUATION - LABORATORY FUME HOODS



Project Name St. Louis Com. College
Location Bridge Park
Order No. _____
Room _____ Item _____
Fume Hood Identification LH
Sash Operation: _____
Light Operation: _____
Baffle Operation: _____
Services: A ___ G ___ V ___ W ___
Other: _____

FACE VELOCITY TEST

1A	176	F. P. M.
1B	154	"
2A		"
2B		"
3A	152	"
3B	147	"

Total 629 / 4 = 157 Average

Total C. F. M. _____

Conclusion and Comments: Pass
Alarm Set

I certify that the above results were obta

Evaluation procedures conducted by Micha

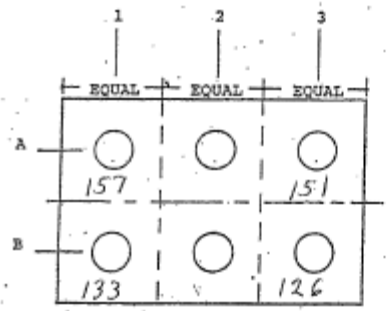
Director

Biosafety: Hoods, @BRDG, Inspection Reports July 2012

R127 Right-most (East) Hood
July 2012

HAMILTON INDUSTRIES
TWO RIVERS, WISCONSIN

FIELD EVALUATION - LABORATORY FUME HOODS



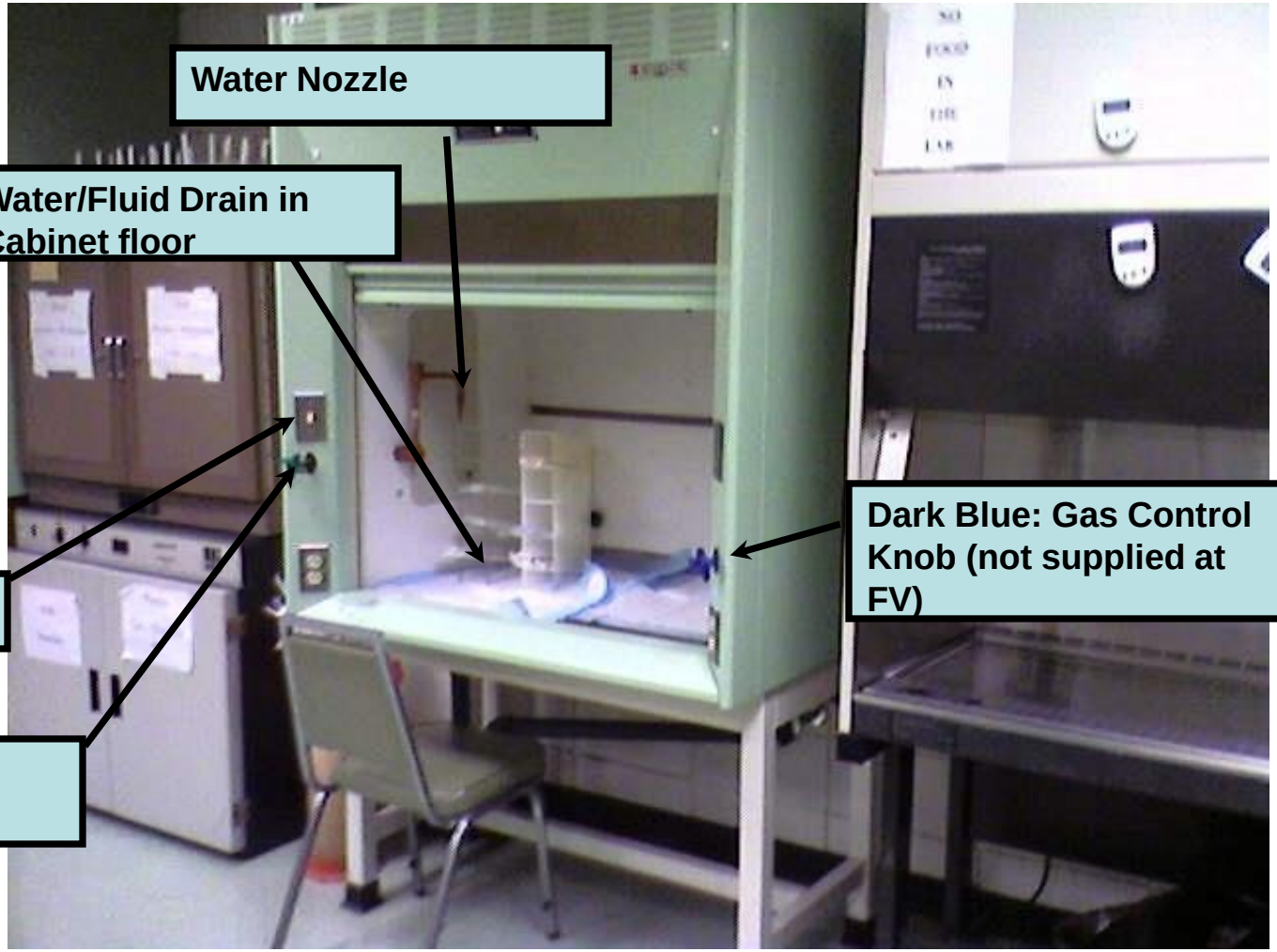
Project Name St. Louis Com. College
Location Bridge Park
Order No. _____
Room _____ Item _____
Fume Hood Identification DRH
Sash Operation: _____
Light Operation: _____
Baffle Operation: _____
Services: A ___ G ___ V ___ W ___
Other: _____

BioSafety: Fume Hoods; Kewaunee Supreme

48" W x 34" D x 63" H

Service Fittings *Color Code:*

Hot Water	*Red*
Cold Water	*Dark Green*
Gas	*Dark Blue*
Air	*Orange*
Vacuum	*Yellow*
Distilled Water:	*White*
Steam	*Black*
Nitrogen	*Brown*
Oxygen	*Light Green*
Hydrogen	*Pink*
Special Gases:	*Light Blue*


Water Nozzle
Water/Fluid Drain in Cabinet floor
Dark Blue: Gas Control Knob (not supplied at FV)
Hood Light on/off
CW; Dark Green Water Control Knob

Hot Link to Kuwaunee Specifications and Test Criteria - pdf

Hot Link to Kuwaunee Service Fitting Requirements - pdf

BioSafety: Cabinet, Labconco Class II, Type A2, Purifier Logic Series, @BRDG

6' Purifier Digital Delta Series Class II, Type A2
HEPA Filter (no external exhaust requirements)
Item Dimensions: 78"w x 31.6"d x 62.2"h
(Measured 74 ½ inches. RGM), Weight >800lbs
Electrical Specification: 110 volts, 50 Hz, 7 amps, International
Product Subcategory: Class II, Type A2 Biological Safety Cab
Nominal Width: 6'
Exhaust Volume: 403-443 CFM
Lighting: Fluorescent, Ultraviolet
Built In Options: UV Light, 2 service fixtures

SN 091218931, Rev A CAT# 3460809
BASE CAT# 079460-03P

Hot Link to Labconco Purifier Logic Series User Manual … pdf

Re-Certification: Call George at ACE 314-974-6616 July each year.

Notes of Maintenance/Certification: (from conversation with G. Naumann 10/14/09)

1) *At FV, we use ACE Electrical Lab Systems, 1550 S. Kingshighway, 63110, 314.771.7272 to do annual cleaning, filter changes, and Certification processes, a 2 day operation that involves use of formaldehyde and potentially other agents in the cleaning. Typical cost is $5K per device.*
2) *For questions of air velocity or CAV we call FV HVAC personnel to get readings.*
3) *HEPA Filters are 99.99% efficient (with particles 0.3 micron) and have aluminum frames with either aluminum separators or separatorless pleats.*

Dodge Moving & Storage, 13390 Lakefront Drive, Earth City, MO 63045, Salesperson is Bill Kirchner, 314-344-4300.

Biosafety: Cabinet Controls Logic Purifier, @BRDG

Blower Button – Starts or stops the cabinet blower. When the blower is in Smart-Start™ mode, closing the sash turns the blower off. When the sash is raised, the blower restarts automatically. In Night-Smart™ mode, when the sash is closed, the motor slows to idle to maintain air cleanliness in the work area. When the sash is reopened, the blower resumes normal operation. Pressing this button overrides Smart-Start™ and Night-Smart™ operation.

Light Button – Turns the fluorescent lamps on or off. Closing the sash automatically turns the lights off. When the lights are in Smart-Start™ mode, raising the sash turns the lights on automatically.

Sash MUST be totally closed before UV light will be activated.

UV Light Button – Turns the UV lamp on or off. When the UV lamp is in Smart-Start™ mode, closing the sash turns the light on. When the sash is raised, the light turns off automatically.

Timer Button – Allows you to select either a repeating interval timer, or an elapsed timer (stopwatch).

Mute/OK Button – Mutes all audible alarms for approximately 5 minutes, unless it is a system error alarm. When in the Menu mode, this button is used to select an option.

Menu Button – This button toggles the display between the display and menu modes. When in the menu mode, pressing this button returns you to the previous menu level.

Select Buttons – Allow you to choose different options in the menu mode.

BioSafety: Cabinet, BRDG, VWR/LabConco, 6ft, Type A2

These glacier white biosafety cabinets feature a unique interior-mounted, line-of-sight LCD information center that displays icons for at-a-glance monitoring of activities including filter loading, disruption in airflow, and cabinet components in use. A bar graph displays percentage of remaining HEPA filter life. A status line gives specific feedback on alarm conditions such as when the sash is too high. An alert warns when the filter life diminishes to 20% or when there is an airflow change such as an inlet grille or exhaust outlet obstruction.

Cabinets are constructed with a durable epoxy-coated steel exterior and a stainless steel liner with removable, stamped one-piece dished work surface. A curved stainless steel inlet grille gently supports the user's forearms. Glare-free fluorescent lighting is located outside the contaminated work area. Cabinets also feature a fully-closing, clear 6.4mm (1/4") thick tempered safety glass sash with two small sculpted sash handles, a counterbalanced anti-racking mechanism, and a 10° slope. An electrical duplex receptacle with ground fault interruption and stainless steel splash cover is located on each side of the cabinet. Electronic security lock with optional activation requires a code to operate the cabinet. Supply and exhaust HEPA filters are 99.99% efficient.

Purifier* Logic* Class II Biosafety Cabinets, Labconco

Sash Open cm,	Voltage,	Hz,	Services,	Exh Vol cfm	Labconco#,	VWR#
20.3 (8)*	115V,	60Hz	2	403–443	3460809	97000-858

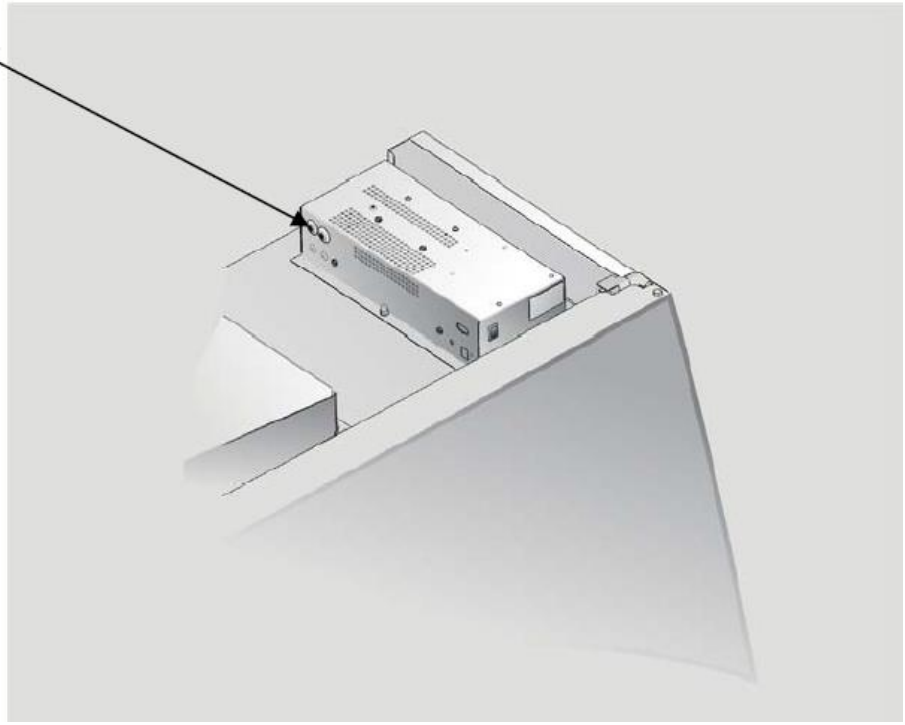
Hot Link to Labconco Biosafety Cabinet Brochure … pdf

Hot Link to Labconco Biosafety Cabinet Manual … pdf

Hot Link to Labconco BSC Technical Specs and Certification Manual … pdf

Biosafety: Cabinet, Logic, Parts & Circuit Breakers

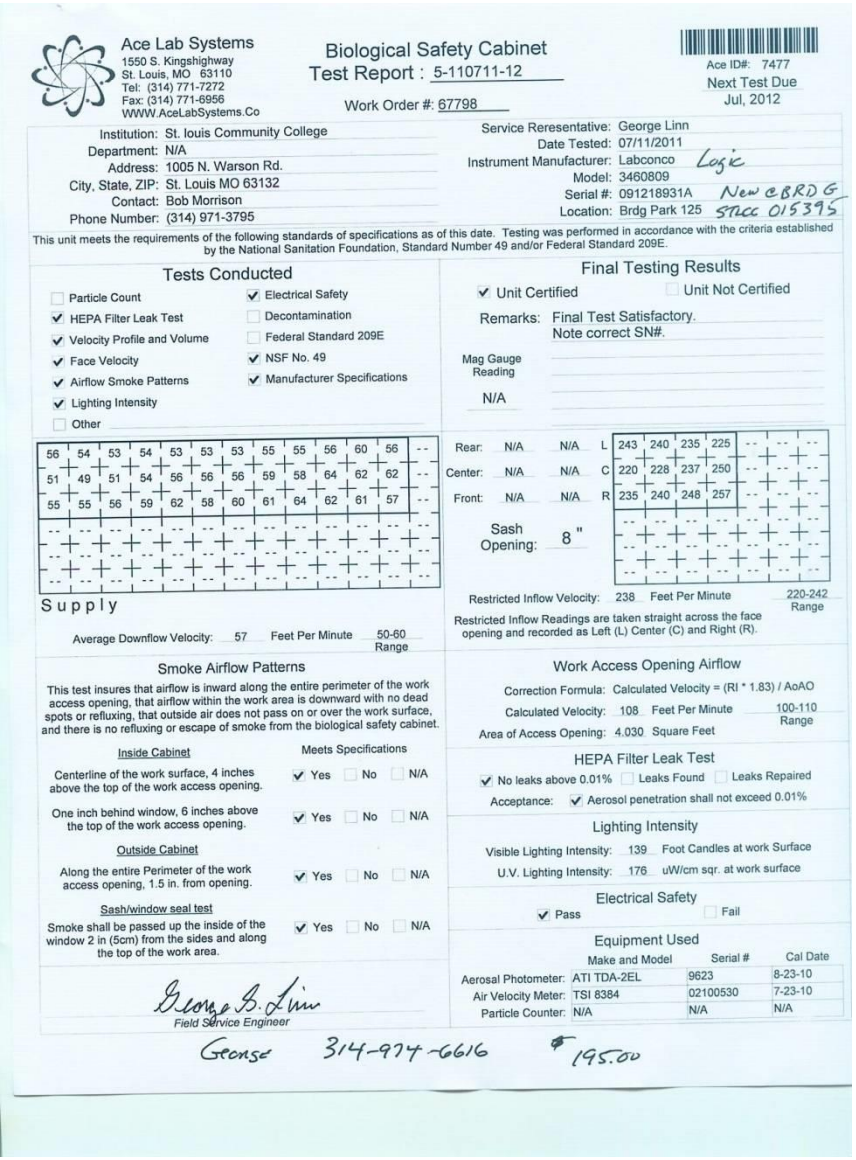
Circuit Breakers- The front breaker protects the electrical outlets, the rear breaker protects the motor and lights.



UV Lamp, 4ft , PN: 9721900 (Appendix A pg 51 of Labconco Manual)
UV Lamp Kit w ballast PN: 3858500 (Appendix C pg 57 of Manual)

Biosafety: Logic, new Cabinet Latest Certification, July 2011

July 2011



Ace Lab Systems
1550 S. Kingshighway
St. Louis, MO 63110
Tel: (314) 771-7272
Fax: (314) 771-6956
WWW.AceLabSystems.Co

Biological Safety Cabinet
Test Report : 5-110711-12
Work Order #: 67798

Ace ID#: 7477
Next Test Due
Jul, 2012

Institution: St. louis Community College
Department: N/A
Address: 1005 N. Warson Rd.
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Rereserntative: George Linn
Date Tested: 07/11/2011
Instrument Manufacturer: Labconco Logic
Model: 3460809
Serial #: 091218931A New @BRDG
Location: Brdg Park 125 STLCC 015395

This unit meets the requirements of the following standards of specifications as of this date. Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

Tests Conducted

- [ ] Particle Count
- [x] Electrical Safety
- [x] HEPA Filter Leak Test
- [ ] Decontamination
- [x] Velocity Profile and Volume
- [ ] Federal Standard 209E
- [x] Face Velocity
- [x] NSF No. 49
- [x] Airflow Smoke Patterns
- [x] Manufacturer Specifications
- [x] Lighting Intensity
- [ ] Other

Final Testing Results

- [x] Unit Certified
- [ ] Unit Not Certified

Remarks: Final Test Satisfactory.
Note correct SN#.

Mag Gauge Reading: N/A

56	54	53	54	53	53	53	55	55	56	60	56	--
51	49	51	54	56	56	56	59	58	64	62	62	--
55	55	56	59	62	58	60	61	64	62	61	57	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--

Supply

Average Downflow Velocity: 57 Feet Per Minute 50-60 Range

Rear:	N/A	N/A	L	243	240	235	225
Center:	N/A	N/A	C	220	228	237	250
Front:	N/A	N/A	R	235	240	248	257

Sash Opening: 8 "

Restricted Inflow Velocity: 238 Feet Per Minute 220-242 Range

Restricted Inflow Readings are taken straight across the face opening and recorded as Left (L) Center (C) and Right (R).

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet.

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimeter of the work access opening, 1.5 in. from opening.	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Correction Formula: Calculated Velocity = (RI * 1.83) / AoAO
Calculated Velocity: 108 Feet Per Minute 100-110 Range
Area of Access Opening: 4.030 Square Feet

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 139 Foot Candles at work Surface
U.V. Lighting Intensity: 176 uW/cm sqr. at work surface

Electrical Safety

[x] Pass [ ] Fail

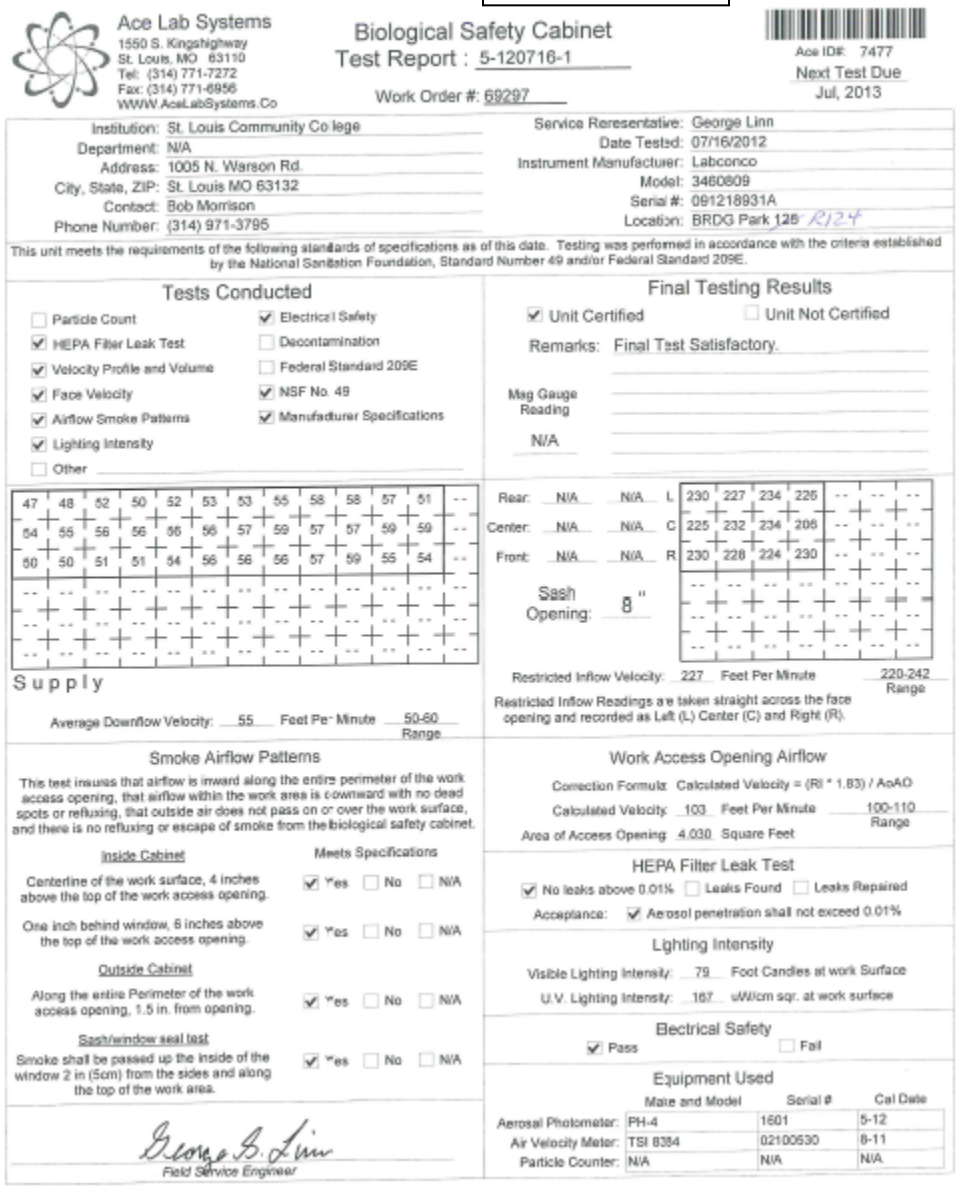
Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	ATI TDA-2EL	9623	8-23-10
Air Velocity Meter:	TSI 8384	02100530	7-23-10
Particle Counter:	N/A	N/A	N/A

George B. Linn
Field Service Engineer

George 314-974-6616 $195.00

July 2012



Ace Lab Systems
1550 S. Kingshighway
St. Louis, MO 63110
Tel: (314) 771-7272
Fax: (314) 771-6956
WWW.AceLabSystems.Co

Biological Safety Cabinet
Test Report : 5-120716-1
Work Order #: 69297

Ace ID#: 7477
Next Test Due
Jul, 2013

Institution: St. Louis Community Co lege
Department: N/A
Address: 1005 N. Warson Rd.
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Rereserntative: George Linn
Date Tested: 07/16/2012
Instrument Manufacturer: Labconco
Model: 3460809
Serial #: 091218931A
Location: BRDG Park 125 R124

This unit meets the requirements of the following standards of specifications as of this date. Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

Tests Conducted

- [ ] Particle Count
- [x] Electrical Safety
- [x] HEPA Filter Leak Test
- [ ] Decontamination
- [x] Velocity Profile and Volume
- [ ] Federal Standard 209E
- [x] Face Velocity
- [x] NSF No. 49
- [x] Airflow Smoke Patterns
- [x] Manufacturer Specifications
- [x] Lighting Intensity
- [ ] Other

Final Testing Results

- [x] Unit Certified
- [ ] Unit Not Certified

Remarks: Final Test Satisfactory.

Mag Gauge Reading: N/A

47	48	52	50	52	53	53	55	58	58	57	51	--
54	55	58	56	56	56	57	59	57	57	59	59	--
50	50	51	51	54	56	56	56	57	59	55	54	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--

Supply

Average Downflow Velocity: 55 Feet Per Minute 50-60 Range

Rear:	N/A	N/A	L	230	227	234	226
Center:	N/A	N/A	C	225	232	234	206
Front:	N/A	N/A	R	230	228	224	230

Sash Opening: 8 "

Restricted Inflow Velocity: 227 Feet Per Minute 220-242 Range

Restricted Inflow Readings are taken straight across the face opening and recorded as Left (L) Center (C) and Right (R).

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet.

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimeter of the work access opening, 1.5 in. from opening.	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Correction Formula: Calculated Velocity = (RI * 1.83) / AoAO
Calculated Velocity: 103 Feet Per Minute 100-110 Range
Area of Access Opening: 4.030 Square Feet

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 79 Foot Candles at work Surface
U.V. Lighting Intensity: 167 uW/cm sqr. at work surface

Electrical Safety

[x] Pass [ ] Fail

Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	PH-4	1601	5-12
Air Velocity Meter:	TSI 8384	02100530	8-11
Particle Counter:	N/A	N/A	N/A

George B. Linn
Field Service Engineer

Room 7/16/12

Biosafety: Labconco Recertification/Service Aug 2013

Ace Lab Systems
1550 S. Kingshighway
St. Louis, MO 63110
Tel: (314) 771-7272
Fax: (314) 771-6956
WWW AceLabSystems Com

Biological Safety Cabinet
Test Report : 6-130805-1
Work Order #: 108295

Ace ID# *74777* 7477
Next Test Due Aug 2014

Institution: St. Louis Community College
Department: N/A
Address: 1005 N. Warson Road
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Reresentative: Brian Dyer
Date Tested: 8-05-2013
Instrument Manufacturer: Labconco
Model: 3460809
Serial #: 091218931A
Location: BRDG Park at Danforth Ctr. 125

This unit meets the requirements of the following standards of specifications as of this date Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E

Tests Conducted

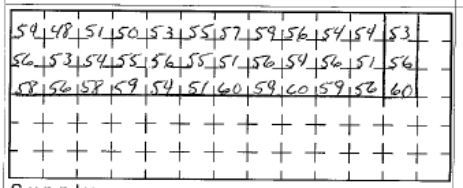
- [ ] Particle Count
- [x] HEPA Filter Leak Test
- [x] Velocity Profile and Volume
- [x] Face Velocity
- [x] Airflow Smoke Patterns
- [x] Lighting Intensity
- [ ] Other
- [x] Electrical Safety
- [ ] Decontamination
- [ ] Federal Standard 209E
- [x] NSF No 49
- [x] Manufacturer Specifications

Final Testing Results

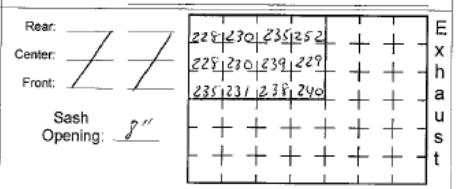
[x] Unit Certified [ ] Unit Not Certified

Remarks: Final Test Satisfactory

Mag Gauge Reading: N/A



Average Downflow Velocity: 55 Feet Per Minute 50-60 Range



Sash Opening: 8"

Average Exhaust Velocity: 235 Feet Per Minute 220-242 Range
Effective Filter Area: 1.83 Square Feet
Exhaust Air Volume: 430 Cubic Feet Per Minute N/A Range

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimeter of the work access opening 1.5 in. from opening	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Area of Access Opening: 4.03 Square Feet
Calculated Velocity: 107 Feet Per Minute 100-110 Range
Measured Velocity: N/A Feet Per Minute

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 114 Foot Candles at work Surface
U V Lighting Intensity: 240 uW/cm sqr at work surface

Electrical Safety

[x] Pass [ ] Fail

Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	Tech PHY	1201	08/12
Air Velocity Meter:	TSI 8346	9711009	09/12
Particle Counter:			

B. Dyer
Field Service Engineer

Ace Lab Systems
1550 S. Kingshighway
St. Louis, MO 63110
Tel: (314) 771-7272
Fax: (314) 771-6956
WWW AceLabSystems Com

Biological Safety Cabinet
Test Report : 6-130805-2
Work Order #: 108295

Ace ID# *66377* 6637
Next Test Due Aug 2014

Institution: St. Louis Community College
Department: N/A
Address: 1005 N. Warson Road
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Reresentative: Brian Dyer
Date Tested: 8-5-2013
Instrument Manufacturer: Labconco
Model: 3621304
Serial #: 990837025
Location: BRDG Park at Danforth Ctr. 125

This unit meets the requirements of the following standards of specifications as of this date Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

Tests Conducted

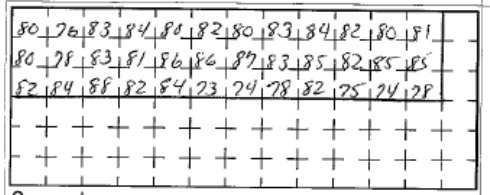
- [ ] Particle Count
- [x] HEPA Filter Leak Test
- [x] Velocity Profile and Volume
- [x] Face Velocity
- [x] Airflow Smoke Patterns
- [x] Lighting Intensity
- [ ] Other
- [x] Electrical Safety
- [ ] Decontamination
- [ ] Federal Standard 209E
- [x] NSF No 49
- [x] Manufacturer Specifications

Final Testing Results

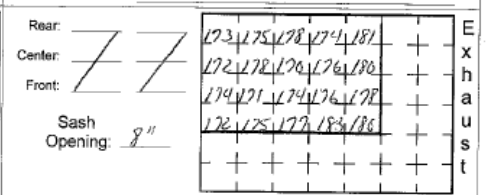
[x] Unit Certified [ ] Unit Not Certified

Remarks: Final Test Satisfactory

Mag Gauge Reading: .2



Average Downflow Velocity: 81 Feet Per Minute 76-86 Range



Sash Opening: 8"

Average Exhaust Velocity: 176 Feet Per Minute 162-183 Range
Effective Filter Area: 2.50 Square Feet
Exhaust Air Volume: 440 Cubic Feet Per Minute 412-457 Range

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimeter of the work access opening, 1.5 in. from opening	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Area of Access Opening: 4.01 Square Feet
Calculated Velocity: 110 Feet Per Minute 104-114 Range
Measured Velocity: N/A Feet Per Minute

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 95 Foot Candles at work Surface
U V Lighting Intensity: 290 uW/cm sqr at work surface

Electrical Safety

[x] Pass [ ] Fail

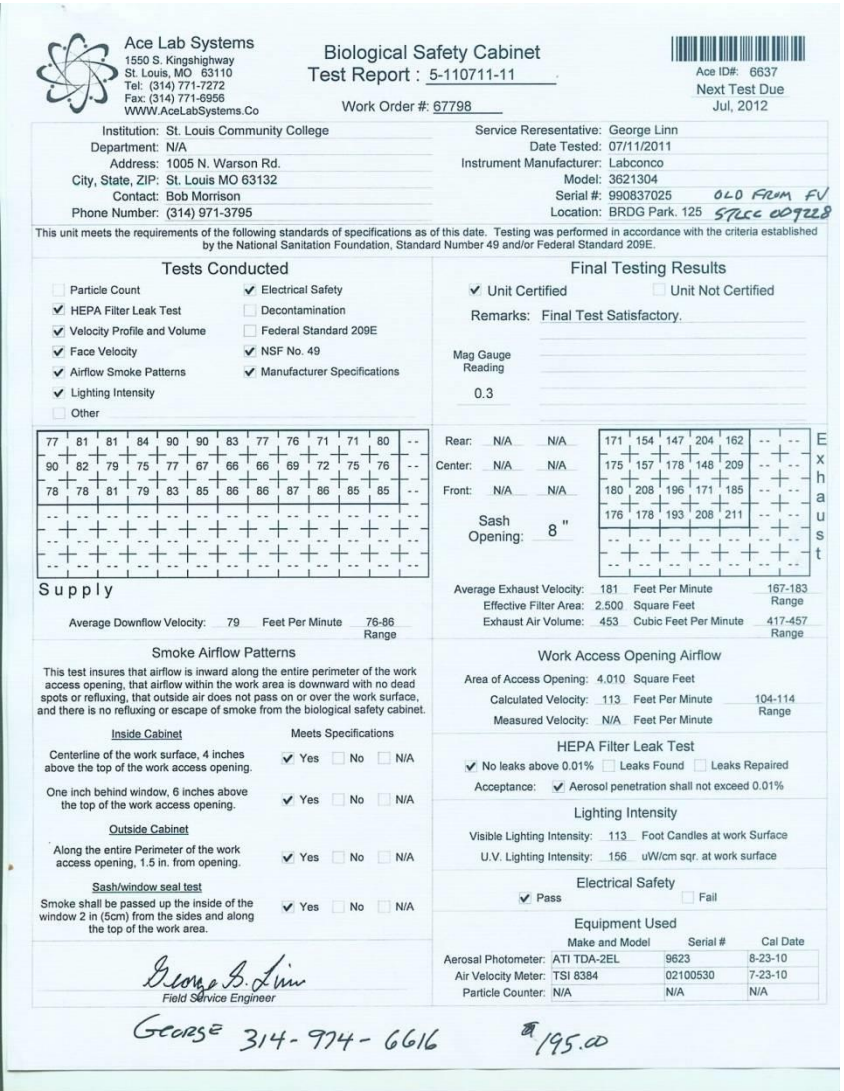
Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	Tech PHY	1201	08/12
Air Velocity Meter:	TSI 8346	9711009	09/12
Particle Counter:			

B. Dyer
Field Service Engineer

Biosafety: Cabinet, Latest Certifications (old FV cabinet)

July 2011



Ace Lab Systems
1550 S. Kingshighway
St. Louis, MO 63110
Tel: (314) 771-7272
Fax: (314) 771-6956
WWW.AceLabSystems.Co

Biological Safety Cabinet
Test Report : 5-110711-11
Work Order #: 67798

Ace ID#: 6637
Next Test Due
Jul, 2012

Institution: St. Louis Community College
Department: N/A
Address: 1005 N. Warson Rd.
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Reresentative: George Linn
Date Tested: 07/11/2011
Instrument Manufacturer: Labconco
Model: 3621304
Serial #: 990837025 OLD FROM FV
Location: BRDG Park. 125 SPACE 009228

This unit meets the requirements of the following standards of specifications as of this date. Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

Tests Conducted

- [ ] Particle Count
- [x] HEPA Filter Leak Test
- [x] Velocity Profile and Volume
- [x] Face Velocity
- [x] Airflow Smoke Patterns
- [x] Lighting Intensity
- [ ] Other
- [x] Electrical Safety
- [ ] Decontamination
- [ ] Federal Standard 209E
- [x] NSF No. 49
- [x] Manufacturer Specifications

Final Testing Results

- [x] Unit Certified
- [ ] Unit Not Certified

Remarks: Final Test Satisfactory.

Mag Gauge Reading: 0.3

77	81	81	84	90	90	83	77	76	71	71	80	--
90	82	79	75	77	67	66	66	69	72	75	76	--
78	78	81	79	83	85	86	86	87	86	85	85	--
--	--	--	--	--	--	--	--	--	--	--	--	--

Supply

171	154	147	204	162	--	--	Exhaust
175	157	178	148	209	--	--	
180	208	196	171	185	--	--	
176	178	193	208	211	--	--	

Rear:	N/A	N/A
Center:	N/A	N/A
Front:	N/A	N/A

Sash Opening: 8 "

Average Downflow Velocity: 79 Feet Per Minute 76-86 Range

Average Exhaust Velocity: 181 Feet Per Minute 167-183 Range
Effective Filter Area: 2.500 Square Feet
Exhaust Air Volume: 453 Cubic Feet Per Minute 417-457 Range

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet.

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimeter of the work access opening, 1.5 in. from opening.	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Area of Access Opening: 4.010 Square Feet
Calculated Velocity: 113 Feet Per Minute 104-114 Range
Measured Velocity: N/A Feet Per Minute

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 113 Foot Candles at work Surface
U.V. Lighting Intensity: 156 uW/cm sqr. at work surface

Electrical Safety

[x] Pass [ ] Fail

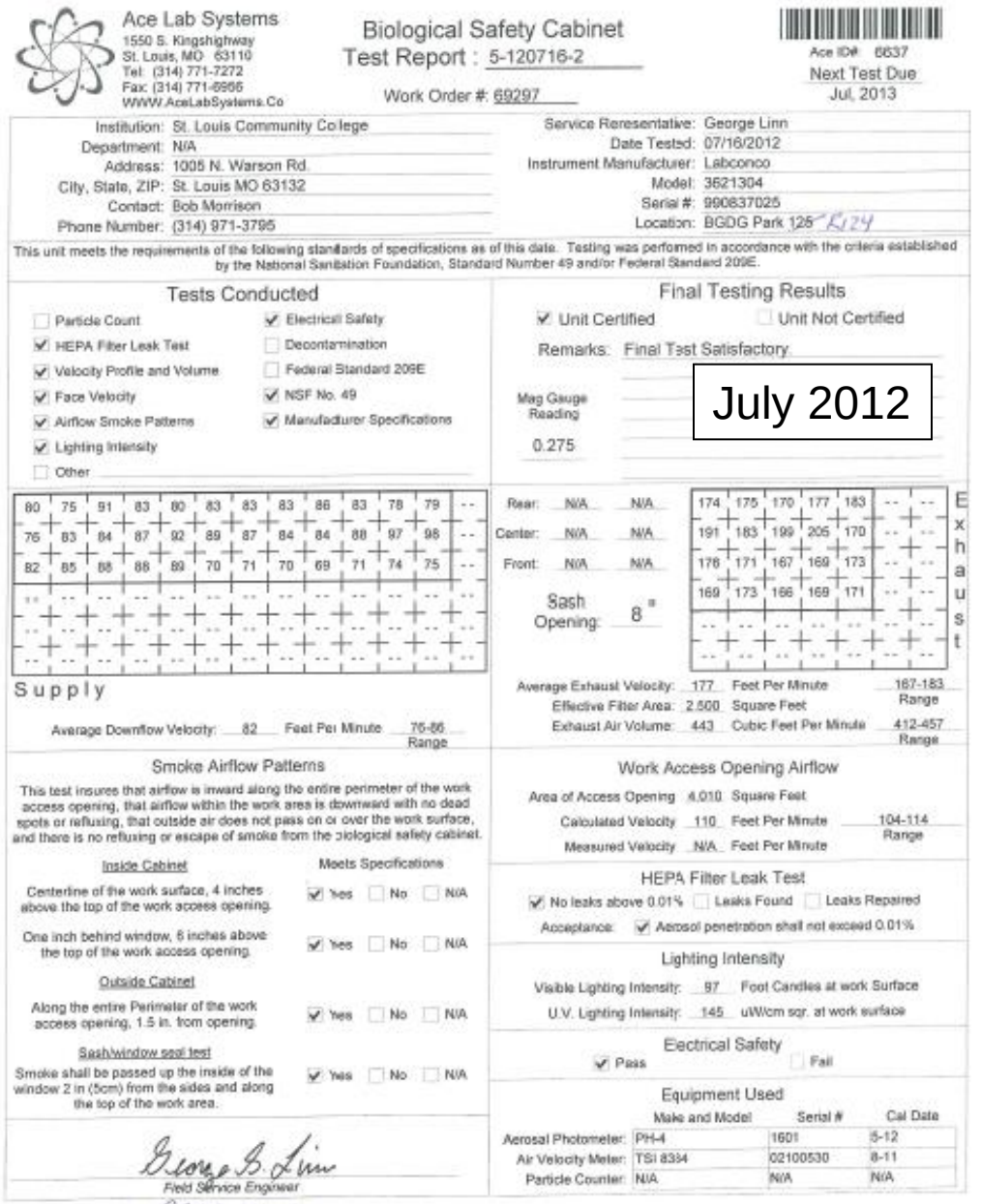
Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	ATI TDA-2EL	9623	8-23-10
Air Velocity Meter:	TSI 8384	02100530	7-23-10
Particle Counter:	N/A	N/A	N/A

George B. Linn
Field Service Engineer

GEORGE 314-974-6616 $195.00

July 2012



Ace Lab Systems
1550 S. Kingshighway
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Tel: (314) 771-7272
Fax: (314) 771-6956
WWW.AceLabSystems.Co

Biological Safety Cabinet
Test Report : 5-120716-2
Work Order #: 69297

Ace ID# 6637
Next Test Due
Jul, 2013

Institution: St. Louis Community College
Department: N/A
Address: 1005 N. Warson Rd.
City, State, ZIP: St. Louis MO 63132
Contact: Bob Morrison
Phone Number: (314) 971-3795

Service Reresentative: George Linn
Date Tested: 07/16/2012
Instrument Manufacturer: Labconco
Model: 3621304
Serial #: 990837025
Location: BGDG Park 125 L124

This unit meets the requirements of the following standards of specifications as of this date. Testing was performed in accordance with the criteria established by the National Sanitation Foundation, Standard Number 49 and/or Federal Standard 209E.

Tests Conducted

- [ ] Particle Count
- [x] HEPA Filter Leak Test
- [x] Velocity Profile and Volume
- [x] Face Velocity
- [x] Airflow Smoke Patterns
- [x] Lighting Intensity
- [ ] Other
- [x] Electrical Safety
- [ ] Decontamination
- [ ] Federal Standard 209E
- [x] NSF No. 49
- [x] Manufacturer Specifications

Final Testing Results

- [x] Unit Certified
- [ ] Unit Not Certified

Remarks: Final Test Satisfactory

Mag Gauge Reading: 0.275

80	75	91	83	80	83	83	83	86	83	78	79	--
76	83	84	87	92	89	87	84	84	88	97	98	--
82	85	88	88	89	70	71	70	69	71	74	75	--
--	--	--	--	--	--	--	--	--	--	--	--	--

Supply

174	175	170	177	183	--	--	Exhaust
191	183	199	205	170	--	--	
176	171	167	169	173	--	--	
169	173	166	169	171	--	--	

Rear:	N/A	N/A
Center:	N/A	N/A
Front:	N/A	N/A

Sash Opening: 8 "

Average Downflow Velocity: 82 Feet Per Minute 76-86 Range

Average Exhaust Velocity: 177 Feet Per Minute 167-183 Range
Effective Filter Area: 2.500 Square Feet
Exhaust Air Volume: 443 Cubic Feet Per Minute 412-457 Range

Smoke Airflow Patterns

This test insures that airflow is inward along the entire perimeter of the work access opening, that airflow within the work area is downward with no dead spots or refluxing, that outside air does not pass on or over the work surface, and there is no refluxing or escape of smoke from the biological safety cabinet.

	Meets Specifications
Inside Cabinet	
Centerline of the work surface, 4 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
One inch behind window, 6 inches above the top of the work access opening.	[x] Yes [ ] No [ ] N/A
Outside Cabinet	
Along the entire Perimetar of the work access opening, 1.5 in. from opening.	[x] Yes [ ] No [ ] N/A
Sash/window seal test	
Smoke shall be passed up the inside of the window 2 in (5cm) from the sides and along the top of the work area.	[x] Yes [ ] No [ ] N/A

Work Access Opening Airflow

Area of Access Opening: 4.010 Square Feet
Calculated Velocity: 110 Feet Per Minute 104-114 Range
Measured Velocity: N/A Feet Per Minute

HEPA Filter Leak Test

[x] No leaks above 0.01% [ ] Leaks Found [ ] Leaks Repaired
Acceptance: [x] Aerosol penetration shall not exceed 0.01%

Lighting Intensity

Visible Lighting Intensity: 97 Foot Candles at work Surface
U.V. Lighting Intensity: 145 uW/cm sqr. at work surface

Electrical Safety

[x] Pass [ ] Fail

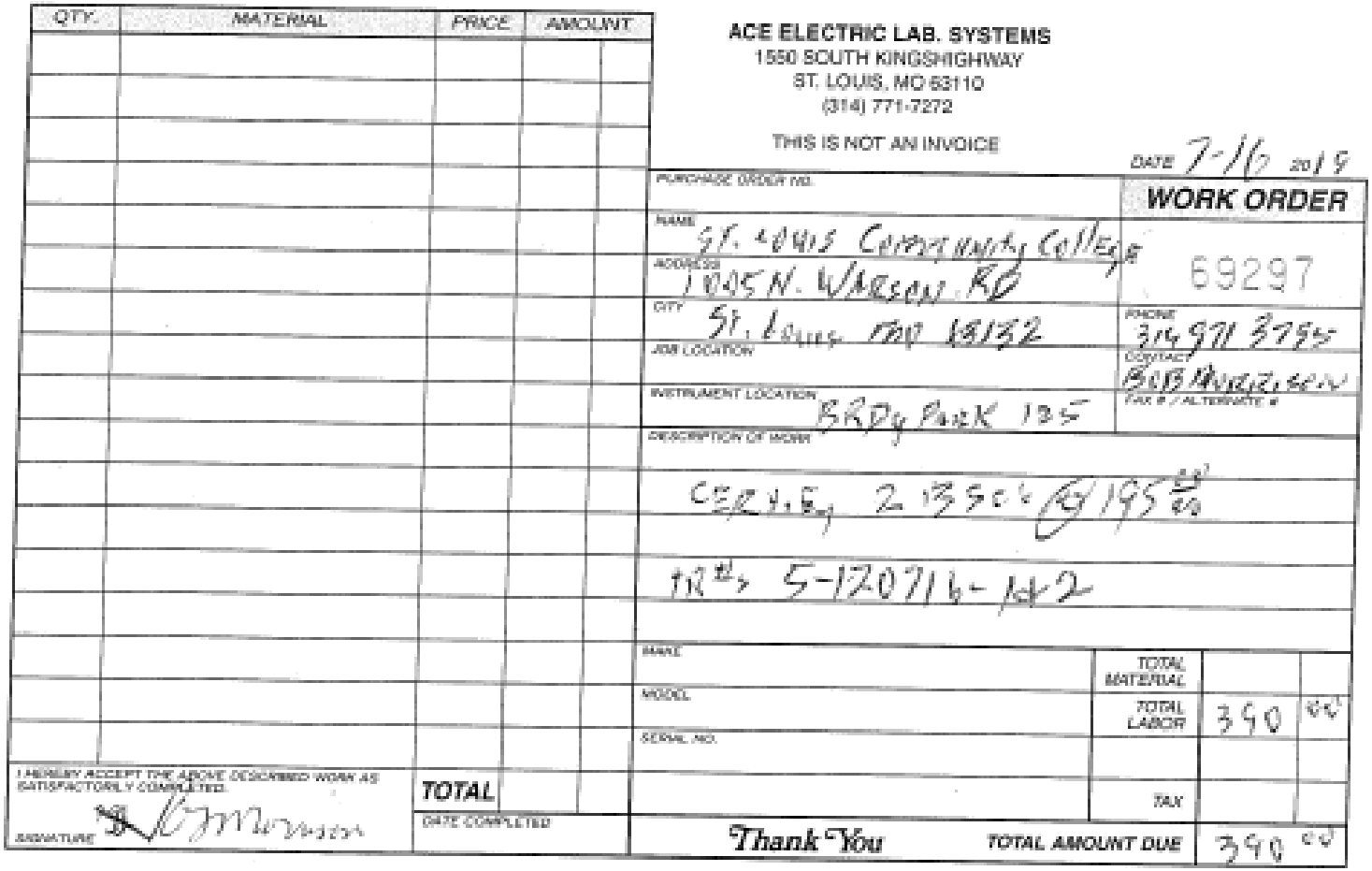
Equipment Used

	Make and Model	Serial #	Cal Date
Aerosal Photometer:	PH-4	1601	5-12
Air Velocity Meter:	TSI 8384	02100530	8-11
Particle Counter:	N/A	N/A	N/A

George B. Linn
Field Service Engineer

7/16/12

Biosafety: Cabinet, Service, Recertification Work Order 2012



QTY.	MATERIAL	PRICE	AMOUNT

I HEREBY ACCEPT THE ABOVE DESCRIBED WORK AS SATISFACTORILY COMPLETED.

SIGNATURE

TOTAL

DATE COMPLETED

ACE ELECTRIC LAB. SYSTEMS
1550 SOUTH KINGSHIGHWAY
ST. LOUIS, MO 63110
(314) 771-7272

THIS IS NOT AN INVOICE

DATE 7-16 2015

PURCHASE ORDER NO.

WORK ORDER

NAME St. Louis Community College

ADDRESS 1005 N. Warson Rd

CITY St. Louis MO 63132

JOB LOCATION

INSTRUMENT LOCATION BRD Park 125

69297

PHONE 314 971 3755

CONTACT Bob Morrison

TAX # / ALTERNATE #

DESCRIPTION OF WORK

CERT 4.5' 2 1350 @ 195.00

WR# 5-120716-1K2

MAKE	TOTAL MATERIAL		
MODEL	TOTAL LABOR	390	00
SERIAL NO.			
	TAX		
Thank You	TOTAL AMOUNT DUE	390	00

BioSafety: Cabinet, Labconco Class II, Type A2, @BRDG

6' Purifier Digital Delta Series Class II, Type A2 (no external exhaust requirements) Biological Safety Cabinet

Catalog Number: 36213043726 ,SN 990736392 , StLCC # 009227

Product Specifications

Item Dimensions: 78"w x 31.6"d x 62.2"h
(Measured 74 ½ inches. RGM)
Electrical Specification: 110 volts, 50 Hz, 7 amps, International
Product Subcategory: Class II, Type A2 Biological Safety Cab
Nominal Width: 6'
Electrical Requirements: International
Sash Opening: 8"
Exhaust Volume: 403-443 CFM
Lighting: Fluorescent, Ultraviolet
Compliance: CE
Built In Options: UV Light, 2 service fixtures

Supply HEPA Filter for 6' Purifier Logic Catalog Number: 3838403 List Price: $890.00
HEPA Filters are 99.99% efficient (with particles 0.3 micron) and have aluminum frames with either aluminum separators or separatorless pleats.

Notes of Maintenance/Certification: (from conversation with G. Naumann 10/14/09)

1) *At FV, we use ACE Electrical Lab Systems, 1550 S. Kingshighway, 63110, 314.771.7272 to do annual cleaning, filter changes, and Certification processes, a 2-3 day operation that involves use of formaldehyde and potentially other agents in the cleaning. Typical cost is $5K per device.*
2) *For questions of air velocity or CAV we call FV HVAC personnel to get readings.*

Biosafety: Labconco A2 Cabinet; Startup Protocol

Start-up

- Turn off UV light if included.
- Slowly raise the sash until the bottom of the sash aligns with the sash indicator decal located on the left side of the work area.
- Turn on the fluorescent light and cabinet blower if the Smart-Start features have not been activated.
- Check the air grilles for obstructions, and note the filter gauge reading.
- Allow the cabinet to operate unobstructed for 5 minutes.
- Wash hands and arms thoroughly with germicidal soap.
- Wear a long sleeved lab coat with knit cuffs and over-the-cuff rubber gloves. Use protective eyewear. Wear a protective mask if appropriate.

Biosafety: Labconco A2 Cabinet, Wipe Down, Loading

Wipe-Down

- Raise the sash to its full open position (approximately 21.75 inches or 552 mm). Mute the alarm by depressing the "Alarm Silence" switch.
- Wipe down the interior surfaces of the cabinet with 70% ethanol, or a suitable disinfectant, and allow to dry.

Loading Materials and Equipment

- Only load the materials required for the procedure. Do not overload the cabinet.
- Do not obstruct the front, side, or rear return air grilles.
- Large objects should not be placed close together.
- Slowly close the sash until it is in the correct operating position.
- After loading the cabinet, wait two to three minutes to purge airborne contaminants from the work area.

Work Techniques

Biosafety: Labconco A2 Cabinet, Work Techniques

- Keep all materials at least 4 inches (100 mm) inside from the sash, and perform all contaminated operations as far to the rear of the work area as possible.
- Segregate all clean and contaminated materials in the work area.
- Arrange materials to minimize the movement of contaminated materials into clean areas.
- Keep all discarded contaminated material to the rear of the work area.
- Avoid moving materials or the operator's hands and arms through the front access opening during use.
- Avoid the use of an open flame. Use disposable lab ware or an electric incinerator as alternatives.
- Use proper aseptic technique.
- Avoid using techniques or procedures that disrupt the airflow patterns of the cabinet.
- If there is a spill or splatter during use, all objects in the cabinet should be surface decontaminated before removal. Thoroughly disinfect the working area of the cabinet WHILE IT IS STILL IN OPERATION, to prevent the release of contaminants from the

Biosafety: Labconco A2 Cabinet, Final Purging, Unload, Wipe-Down

- Upon completion of work, the cabinet should be allowed to operate for two to three minutes undisturbed, to purge airborne contaminants from the work area.

Unloading Materials and Equipment

- Objects in contact with contaminated material should be surface decontaminated before removal from the cabinet.
- All open trays or containers should be covered before being removed from the cabinet.

Wipe-Down

- Wipe down the interior surfaces of the cabinet with 70% ethanol, or a suitable disinfectant, and allow to dry.
- Periodically lift the work surface and wipe down the area beneath it.
- Inspect and clean the towel catch located at the rear of the work area, beneath the work pan.
- Dispose of rubber gloves appropriately, and have lab coat laundered properly.
- Wash hands and arms thoroughly with germicidal soap.

Biosafety: Biosafety Cabinet, Labconco, A2, Airflow

OVERVIEW

Select the right Purifier Logic Biosafety Cabinet for your application

Purifier Logic Class II Biosafety Cabinets come in Type A2 and Type B2 configurations. The airflow diagrams at right illustrate the differences between the two Types. Which configuration you choose is determined by your application. Both Type A2 and B2 cabinets are suitable for work with agents that require Biosafety Level 1, 2 or 3 containment. Other appropriate applications include work with antioneoplastic drugs, genetic material, carcinogens, allergens and additional substances that generate hazardous airborne particulates.

Purifier Logic Class II, Type A2 Biosafety Cabinets are designed to discharge HEPA-filtered exhaust air directly into the laboratory, or into an exhaust system through the optional Canopy Connection. When canopy-connected, the biosafety cabinets may be used for applications involving minute quantities of volatile toxic chemicals and tracer amounts of radionuclides as an adjunct to microbiological research. These benchtop cabinets are available

Class II, Type A2 Airflow

During operation, room air is drawn into the inlet grille. The air in the plenum beneath the work surface is a mixture of unfiltered room air, and air that has just passed through the work area. This contaminated air is drawn by the blower through the back plenum of the cabinet, where approximately 70% of the air is recirculated through the supply HEPA filter and back over the work area. The balance of the contaminated air is discharged to the environment after passing through the exhaust HEPA filter.

Room Air

HEPA-Filtered Air

Unfiltered Air under Negative Pressure

Unfiltered Air under Positive Pressure

Biosafety: Velocimeter, Check Air Flow in Biocabinets, Hoods (example only, not presently at FV)

VELOCICHECK Thermal Anemometers are available from Kenelec Scientific.

The 9515 and 9525 models are an economical choice for a digital Air Velocity Meter, without compromising accuracy or precision. Professionals find them the ideal tool for face velocity measurements in fume hoods, spray booths, or for IAQ and ventilation system checks. The Model 9515 features a 40-inch (101.6 cm) telescoping integrated probe for difficult to reach measurements. The Model 9525 has a 3-inch retractable probe and is UL listed as intrinsically safe for use in hazardous locations for Divisions 1 and 2 in Class I, Groups C and D; Class II, Groups E, F and G; and Class III.

Velocity
Range: (9515) 0 to 4,000 ft/min (0 to 20 m/s)
Range: (9525) 0 to 2,000 ft/min (0 to 10 m/s)
Accuracy: ±5% of reading or ±5 ft/min (±0.025 m/s),whichever is greater
Resolution: 1 ft/min (0.01 m/s)
Temperature (9515 only)
Range: 0 to 200°F (-18 to 93°C)
Accuracy: ±0.5°F (±0.3°C)
Resolution: 0.1°F (0.1°C)
Instrument temperature range
Operating (Electronics) : 40 to 113°F (5 to 45°C)
Model 9515 Operating (Probe): 0 to 200°F (-18 to 93°C)
Model 9525 Operating (Probe): 14 to 140°F (-10 to 60°C)
Storage: -4 to 140°F (-20 to 60°C)

Notes of Maintenance/Certification: (from conversation with G. Naumann 10/14/09)

1) At FV, we use ACE Electrical Lab Systems, 1550 S. Kingshighway, 63110, 314.771.7272 to do annual cleaning, filter changes, and Certification processes, a 2-3 day operation that involves use of formaldehyde and potentially other agents in the cleaning. Typical cost is $5K per device.

2) For questions of air velocity or CAV we call FV HVAC personnel to get readings.

Biosafety: Emergency Shower and Eye Wash @ BRDG

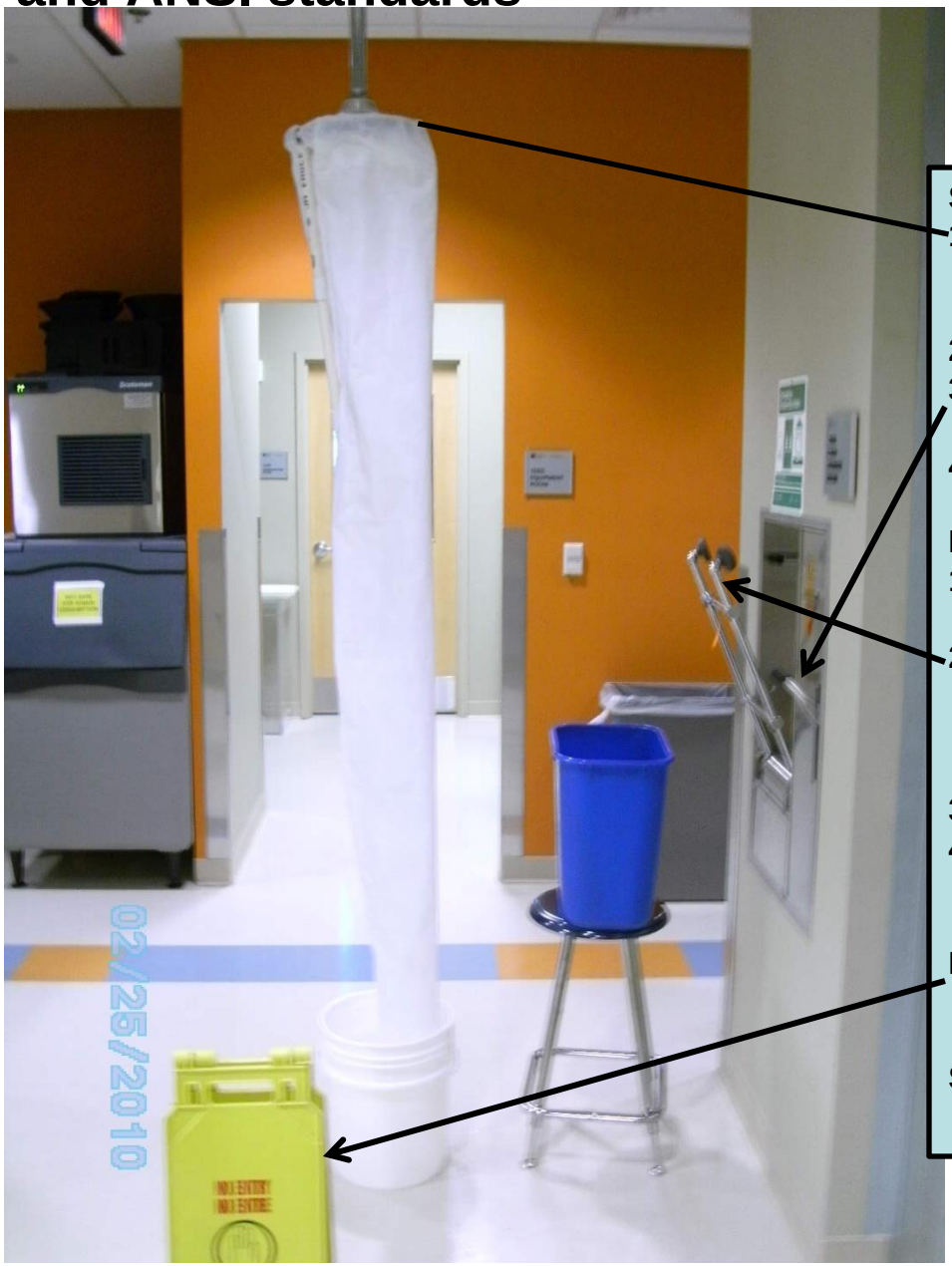
Guardian GBF2100PCC Recessed Safety Station

Polished Chrome Plated Brass Shower Head application: Recessed barrier-free eye/face wash and shower safety station with ceiling mounted exposed shower head. Recessed design conserves valuable floor space, while eliminating the clutter and obstruction created by conventional emergency equipment.
Shower head: 10" diameter stainless steel (GBF2100)

Eye Spray heads: 1" IPS brass stay-open ball valve with stainless steel “panic bar” actuator. eye/face wash spray head assembly: Two FS-Plus™ spray heads mounted on supply arms. Each spray head has internal flow control and filter to remove impurities from water. eye/face wash valve: 1/2" IPS plug-type valve with Teflon® coated O-ring seals. Swinging head assembly from storage to operational position opens orifice and activates water flow. Unit remains in operation until head assembly is returned to storage position. Furnished with in-line strainer to protect valve from debris and foreign matter. mounting: 16 gauge stainless steel cabinet with flanged rim for recessed mounting in wall.

Hot Link to Guardian Cut Sheet …pdf

Biosafety: Shower/Eye Testing @ BRDG, Weekly as required by OSHA and ANSI standards



Hot Link to ANSI standards on testing…pdf

SHOWER TEST:

1. Configure Shower funnel ring entirely over (on top) of shower head and hold handle while testing shower.
2. Drop funnel/shield inside 5 gal bucket
3. Pull down shower handle and let flow run until bucket is 80% full.
4. Verify flow rate and clear water stream.

EYE STATION TEST:

1. Place 18” wide , > 8 gallon bucket below shower as shown on stool or other support
2. Pull down eye handles approximately 70 degrees until eye spray handles begin to flow water, adjust bucket as needed before pulling to full down/horizontal position
3. Let flow run until can is 80% full.
4. Verify full open flow rate from both eye sprays with clear stream.

MOP and CLEAN area and place yellow placard for safety until area is fully dry

SIGN and DATE Inspection Log Sheet.

Biosafety: Emergency Shower/Eye Inspection Log

Location/Room	Date: d/m/y	Inspected by: Print name	Initials:	Notes:

BioSafety: Eye Wash and Drench Shower

Item Number: GUA-G1902
Manufacturer: Guardian Equipment

Hot Link to Guardian Ansi Safety Guidelines - pdf

BioSafety: Se-Cur-All Cabinet, Flammable Safe

4', Se-Cur-All Cabinet
Model A145, 45 Gal capacity

NFPA code 30, Current as of Jan 2009

9.5.4* Storage cabinets shall not be required by this code to be ventilated for fire protection purposes.

9.5.4.1 If not ventilated, storage cabinet vent openings shall be sealed with the bungs supplied with the cabinet or with bungs specified by the cabinet manufacturer.

9.5.4.2 If ventilated for any reason, the storage cabinet vent openings shall be ducted directly to outdoors in such a manner that will not compromise the specified performance of the cabinet and in a manner that is acceptable to the authority having jurisdiction.

Biosafety: Flammables, Cabinet, BRDG, Secur-ALL, 4ft,

Cabinets are constructed of tough, double-walled 18-gauge galvanized steel with 3.8cm (11/2") air space between walls and 5.1cm (2") vent with flash arrestor. Complete with grounding attachments, three-point latching system, 5.1cm (2") raised leakproof sills, and yellow enamel finish. Equipped with a large warning sign ("FLAMMABLE – KEEP FIRE AWAY"), flush mounted locking handle, and leveling legs. Cabinets are supplied with one or two adjustable steel shelves.

All cabinets comply with OSHA regulations and are designed in accordance with the standards of NFPA Code 30.

3" Vent to outside required if used for Acid or Flammable storage

Flammables Safety Storage Cabinets, SECURALL*

Capacity	W (cm) H D (inches)	Type	Shelves	Wt	Securall#	VWR#
170.3 (45)*	109.2 x 165.1 x 45.7 (43 x 65 x 18)	Manual	2	153 (337)	A145	15001-666

Biosafety: Acid Storage Cabinet, VWR, Eagle, @BRDG

Polyethylene Acid/Corrosive Storage Cabinets, Eagle Manufacturing

Supplier: Eagle

83.3 (22) 89 x 56 x 91.4 (35 x 22 x 36) 2 43.2 (95) CRA-P22 56618-604 Each $1,409.46

Nonmetallic cabinets are constructed of 100% polyethylene for excellent resistance to acid vapors and spills, making them ideal for storing nitric, sulfuric, and hydrochloric acids. Available in 15.1L (4gal.) benchtop and 83.3L (22gal.) undercounter storage models, they feature internal and top sump capacities of at least 3.8L (1gal.), storage for smaller containers in the doors, lockable doors, adjustable poly shelves, and two 5.1cm (2") poly vents with caps. Cabinets are standard flat blue color with a smooth surface for ease of cleaning.
Ordering Information: Cabinets are also

Biosafety: Waste Container, Acrylic, VWR, @BRDG

Large Waste Container 76.8 x 44.5 x 43.8 ($30^1/_4$ x $17^1/_2$ x $17^1/_4$) 89030-140 Each $490.22

These waste containers are ideal for keeping sharp objects and liquid waste contained in the event of waste box leakage. Clear acrylic casing permits visibility of warning insignias or biohazard bags. Each container has a hinged lid for convenient placement of waste materials. Constructed of clear, 1cm ($^3/_8$") thick acrylic.

BRDG Park BioHazard Container Protocol: (per BS 3/10/11)

1) Get an empty red biohazard storage box from under the hoods in Molecular lab and line it a new regular thickness bag
2) Bring storage box to waste container and transfer entire biohazard waste bag into the box bag . This will double-wrap the biohazard in the storage box.
3) Return red biohazard storage box to the area under the hoods until the next scheduled waste pickup.
4) Place new heavy duty Biohazard bag in the waste container

Biosafety: Glass Disposal, Containers, VWR, @BRDG

Floor Disposal Carton 30.5 x 30.5 x 68.5 (12 x 12 x 27) 56617-801 Pack of 6 $53.68

Disposable cardboard receptacles with 2mil thick polypropylene liner safely contain broken glass and spilled liquids. Entire unit may be disposed of as a whole once safety cap is pulled into place. Available in floor and benchtop models.

Carton cover with spring-actuated bag holder (for floor model only) improves sanitation and safety of waste disposal. Autoclavable lid prevents inadvertent contact with bag contents, and is color-coded for easy identification.

Biosafety: Chemical Spill Kit, SpillSolv Multikit

For safe, easy, effective spill treatment in the laboratory. SpillSolv kits are available for acid, caustic, solvent, formaldehyde, or mercury spills.
Caustics and acids are converted into nonhazardous compounds that meet EPA specifications for nonhazardous waste, simplifying cleanup and disposal. Solvent spills can be easily treated and transported with the adsorbent in the solvent spill kit. This adsorbent will also act as a vapor suppressant.

FOR ALL SPILLS:

1. **FIRST, Put on Safety Glasses and Gloves**
2. **Send someone else for help/to call Emergency numbers or get Fire Extinguisher**
3. **Take Student(s) to Emergency Shower/Eye wash station if splashed with chemicals**
4. **Determine the chemical type in the spill, DON'T GUESS !**
5. **Pour granules <u>from the appropriate bottle</u> forming a ring around the spill area (diking) then proceed toward the center**

FOR FLAMMABLE/SOLVENT SPILLS: USE Solvent Granules

FOR ACID SPILLS: USE Acid Granules

FOR CAUSTIC/BASE SPILLS: USE Caustic Granules

Biosafety: Ethidium Bromide Removal System

1. **Place a fresh coffee filter in the blue funnel found near the unit and insert the funnel in the hole at the top reservoir**
2. **Slowly pour up to 2 liters of gel solution through the funnel/filter into the upper reservoir.**
3. **When liquid is all in the upper reservoir, discard coffee filter in biohazard disposal bin and rinse funnel for next use**

4. **Do not remove the cap to the upper reservoir**
5. **Do not connect extra tubing to drip outlet port, it must remain at level of reservoir.**

6. **Replace cartridge about every two years. Close ends with yellow caps and incinerate**

Liquid draining from Outlet port is safe for normal sewage

The Elchrom Scientific Company Bind-ET™
Ethidium Removal System removes large quantities of Ethidium from contaminated inorganic solution.
The cartridge has a total capacity of at least 2 g of Ethidium. This equals 4,000 l of a typical electrophoresis buffer or staining solution (at a concentration of 0.5 µg/ml).
Flow rate: 3liters/hour
Saturated cartridges can be disposed of via incineration.

Dimensions: 33.5 x 22.5 x 47 cm

P/N	**Product**
2350	BindET™ removal system including cartridge
2351	Replacement cartridge for BindET™ including cartridge

Biosafety: Ethidium Bromide Filter, get quote

Life Science Research Proc

https://www.biolynx.ca/search/EL2351/1

For Plant and... | St. Louis Communit... | STLCC FV SMET Divi... | St. Louis Communit... | Google News | Google | Emerald Coast Real ... | Panama City Beach ...

MJS BioLynx INC.

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Bind-ET(TM) - Ecological Ethidium Removal System
Supplier: Elchrom Scientific

Page 1 of 1

*Not all products have been categorized. Please use the search box at the top of the page, or contact our Technical Support Team for assistance.

Biosafety: Ethidium Bromide Filter, Invoice Dec 2013

MJS BioLynx INC.

P.O BAG 1150, 300 LAURIER BLVD.
BROCKVILLE, ONT. K6V 5W1
TEL: (613) 498-2126 FAX: (613) 342-1341
sales@biolynx.ca

Invoice Number	Page 1 of 1
P53980	

Salesperson: House Account
Invoice Date: 05-Dec-2013
GST #: 86734 2099

INVOICE for St. Louis Community College (STL130)

Bill To: St. Louis Community College
Accounts Payable
300 South Broadway
St. Louis, MO 63102-2810
United States

Ship To: Attn: Richard Norris, PO# P1403135
St. Louis Community College
Center Plant & Life Sci.,BRDG Park at DDPSC
1005 N Warson Rd., Rm 122
St. Louis, MO 63132
United States

Order Information	Shipment Carrier	Payment Information
PO No.: P1403135 Order No.: 53980	UPS - Air Collect	Due Date: 04-Jan-2014 Terms: Net 30 days

Ordered By: Florissant Valley 314-539-5225
Description.: Mail - Quotation 38158

Richard Norris, PO# P1403135
Funds: US Dollars
UPS Acct # 980-W46
Tax ID # 43-0786590

Invoice Details	UOM	Ordered	Previously Shipped	Shipped in this Invoice	BO/Not Fill	Unit Price	Extended
EL2351 - CARTRIDGE, REPL., FOR BIND-ET SYSTEM, EACH	EA	1.00	0.00	1.00	0.00	$481.70	$481.70

Freight Charges may include extra charges for
TDG indicated by *-Dry Ice Charges **-Ice Packs-***
Products are for research use.

SubTotal	$481.70
Amount Paid	$481.70
<< Amount Paid in Full >>	

Biosafety: First Aid Kit, North, Lab, VWR, @BRDG

Designed for use in classrooms and research or clinical laboratories, this kit contains all of the components necessary to treat common injuries found in a laboratory environment. The kit is unitized for easy access of treatments and ease of inspection. ANSI-Z308.1 compliant. (North Safety 019750-0034L)

Kit Contents:
6 Burn-Jel* Pain Relieving Gel, 3.7 mL (1/8 oz.) Pouch
10 Antiseptic Wipes, BZK
1 Water-Jel* Burn Dressing, 10.2 x 10.2 cm (4 x 4")
6 Adhesive Bandage, XL, Plastic
16 Adhesive Bandage, 2.5 x 7.6 cm (1 x 3"), Plastic
4 Gauze Pads, 7.6 x 7.6 cm (3 x 3"), Sterile
1 Compress, 10.2 cm (4") Offset
1 Triangular Bandage, Nonsterile
1 Eyewash with (4) Eye Pads and Strips
1 Instant Cold Pack
2 Adhesive Tape, 1.3 cm x 2.3 m (1/2" x 71/2')
1 Forceps and Scissors
2 Nitrile Gloves, Medical Grade
1 Poison Control Directory

Biosafety: Gloves, Heat-Resistant, Autoclave

GLOVES AUTOCLAVE 47CM PR 32885-826 Each of 2 $42.24

Excellent hand protection for handling hot objects out of the autoclave or oven.

Soft, pliable, and washable all-cotton terry-cloth gloves. Heat-resistant up to 232°C (450°F). Gloves are bright orange for high visibility. Length: 47cm (181/2"). (Bel-Art 132010001)

Biosafety: Desiccator, Drybox, Secador, manual

Hygrometer dial in the door allows for easy monitoring of relative humidity.

Case blocks 99% of UV light

General description :

Dry storage of humidity senstiive products is now easier. Secador cabinets assure moisture and dust free storage of valuable items like reagents and pipettes with their patented sealed design. Available in small or large models, with either horizontal or vertical orientation, these uniquely-designed units are available totally clear, clear with blue end caps, and amber. The stackable small model is perfect for maximizing storage space in a minimum footprint.

Cabinets are molded of a co-polyester plastic resistant to staining, crazing and chemical attack and have built-in protection that blocks 99% of UV light. Desiccant can be placed under the bottom shelf or on any shelf. A hygrometer dial in the door allows for easy monitoring of relative humidity. Carrying handles make them easy to relocate.

Amber cabinets reduce visible light penetration by more than 50% and blocks 99% of UV light.

- Has two perforated shelves that are removable
- Door has two latches at the top and loops for - lock or tamper evident seal Can be stacked three high.

BioSafety: Liquid Nitrogen Storage/Xfer Tank

LINDE
LAB DEWAR LINDE (UNION CARBIDE)

Model LR-31
SN 230-126-M1

30 Liter Max N Capacity.

Biosafety: Gas Tank/Cylinder Storage

- Shall not be stored in exits or egress routes.
- Shall be stored within a well-ventilated area.
- Shall not be stored in damp areas, near salt or corrosive chemicals, fumes, heat or where exposed to the weather.
- Shall be stored in an upright position.
- Shall be secured with a chain or appropriate belt above the midpoint, but below the shoulder. Laboratory cylinders less than 18" tall may be secured by approved stands or wall brackets.
- Shall be capped when not in use or attached to a system (if the cylinder will accept a cap).
- Shall be kept at least 20 ft. away from all flammable, combustible or incompatible substances. Storage areas that have a noncombustible wall at least 5 ft. in height and with a fire resistance rating of at least 30 minutes may be used to segregate gases of different hazard classes in close proximity to each other.
- Shall be stored so that cylinders are used in the order in which they are received.
- Shall be stored so that gases with the same hazard class are stored in the same area. Inert gases are compatible with all other gases and may be stored together.
- Shall not be stored longer than one year without use.
- Shall be stored so that full cylinders remain separate from empty cylinders.

Ames Laboratory Environment, Safety, Health & Assurance
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Hot link to Gas Tank/Cylinder Safety Guidelines…. pdf

Biosafety: Formaldehyde, OSHA Requirements

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10075

Permissible Exposure Limit (PEL) -
1910.1048(c)(1)

TWA (total weighed average) : The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds 0.75 parts formaldehyde per million parts of air (0.75 ppm) as an 8-hour TWA.

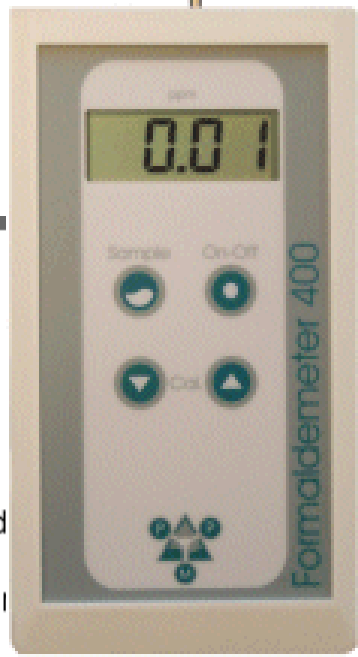
1910.1048(c)(2)

Short Term Exposure Limit (STEL): The employer shall assure that no employee is exposed to an airborne concentration of formaldehyde which exceeds two parts formaldehyde per million parts of air (2 ppm) as a 15-minute STEL.

Hot Link to United States Dept of Labor OSHA Formaldehyde Regulation Page … html

Biosafety : Formaldehyde Meter/Monitor (example only, presently not at FV)

www.ppm-technology.com



Formaldemeter™400

Portable Direct Read Formaldehyde Monitor

The Formaldemeter 400 offers a simple way to monitor levels of airborne formaldehyde in the workplace. The instrument has been designed with ease-of-use in mind, being operated via a simple four-button keypad and featuring an easy-to-read four-digit display.

The Formaldemeter 400 uses a well-proven electrochemical formaldehyde sensor that will provide an immediate indication of atmospheric formaldehyde levels. Unlike other formaldehyde monitoring devices such as colour stain tubes and badges, the Formaldemeter 400 is capable of measuring many samples consecutively without the need for inconvenient ancillary equipment. Real time results also mean that potential overexposures can be identified as they occur, without the delay associated with laboratory

TECHNICAL SPECIFICATION

Sensor:	Electrochemical
Calibration:	In-field formaldehyde calibration standard
Display:	4 digit LCD
Sampling Frequency:	0 – 3 minutes depending on previous read
Sample volume:	Approx. 10 ml
Detection Range:	0.05 – 10 ppm (other ranges available on
Precision:	10% at 2 ppm level
Response Time:	Approximately 8 seconds from sampling
Power:	9V PP3 alkaline battery
Enclosure:	ABS plastic
Weight:	Instrument: 270 g Complete Kit: 750 g
Dimensions:	Instrument: 150x80x34 mm Carrying Case:266x230x50 mm

Kit Contents

1 Formaldemeter 400 instrument with battery
1 Formaldehyde calibration standard tube
1 Pack of phenol filters (10)
1 Thermometer
1 Ball point pen
1 Operation manual

ACCESSORIES

Biosafety: 3M™ Formaldehyde Monitor 3720, Tab

(Example only, presently not at FV note: must be mailed to lab for analysis)

Important Note:
Prepaid analysis address is: B.I.C. Chemistry Department, 11001 Hampshire Ave. S.,
Mpls., MN 55438

The 3M™ Formaldehyde Monitor 3720, with Prepaid Analysis uses the proven scientific principle of diffusion, which is the gradual mixing of molecules of two or more substances. It monitors personnel or work areas in health care, laboratories, and in the chemical, pulp/paper, foundry and textile industries. Analysis procedure is available upon request. The monitor uses a bisulfite-impregnated filter and is analyzed by colorimetry. It can be used for 8 hour TWA sampling to meet the OSHA requirement of +/- 25% accuracy at 0.5-5.0ppm. However, this monitor does not have the sensitivity for short term exposure limit (STEL) monitoring. It has an 18-month shelf life.

3M ID: 70-0700-9394-6

Biosafety: Air Purifier, Ionair Wall Units

Note: Unit from FP is Ionair 7-D
www.ionair.ch, LK Luftqualitaet AG
Lucerne/Switzerland
(example only, presently not at FV)

ODOUR NEUTRALISATION
POLLUTANT REDUCTION
ENERGY CONSERVATION

ionair®
LK Luftqualität AG

YOUR PARTNER
FOR INDOOR AIR QUALITY

LK Luftqualitaet AG
Taeschmattstrasse 10
CH-6015 Reussbuehl
Lucerne/Switzerland
Phone +41 (0) 41 261 0505
Fax +41 (0) 41 261 0507
info@ionair.ch
www.ionair.ch

ionair® air treatment unit air&more

ionair® air treatment unit air&more with remote control

Application

offices, domestic areas, hospitals, care and nursing homes, fitness studios, restaurants and schools, laboratories; for natural neutralisation of odours and reduction of germs in indoor air

The ionair® fresh air system

continuously analyzes the harmful contaminations of the indoor environment with an ultra sensitive air quality sensor. A sophisticated, built-in controller processes the incoming sensor readings to archive the most efficient ionization intensity. The ionisation activates oxygen which neutralizes unpleasant odours and removes dust particles by agglomeration. Activated oxygen (ions +/-) kills and prevents bacteria from propagation. The natural cleanliness and freshness is given back to the air you breathe.

Product types

- Article-n° **5011** ionair® air treatment unit air&more 1
- Article-n° **5012** ionair® air treatment unit air&more 2

Technical data	5011	5012
max. room volume [m³]	100 m³/h	150 m³/h
power consumption	~40 W	~50 W
ionair® tubes	1 x type D	2 x type D
weight	7,2 kg	7,4 kg
remote control	5 button remote control (2xAAA 1,5V batteries)	
adaption (sensor sensitiveness)	in five-unit steps, 0% - 100%	
fan	silent 2 → 75 m³/h; medium 6 → 120 m³/h; max. 10 → 150 m³/h	
ionization	in one-unit steps, 1 - 10	
voltage	90 V ... 260 V / 50 Hz ... 60 Hz	
dimensions [mm]	L 560, H 350, W 120	
double air filter	interchangeable L 550, H 135, W 20	
wall mounting	with 3 screws and rawl plugs ø5 mm (enclosed in the delivery)	

BioSafety: Other Notes

- Future home of other or more details protocols….